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Environmental Impact Report

Camp Wawona Redevelopment Project and Proposed Land Exchange





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Draft
Environmental Impact Report

Camp Wawona Redevelopment Project and Proposed Land Exchange



Prepared by:



County of Mariposa Planning Department
Eric Jay Toll, Director
5100 Buillon Road
P.O. Box 2039
Mariposa, CA 95338

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December 8, 2003

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PREFACE

The Camp Wawona Redevelopment Project and Proposed Land Exchange are under consideration by both the County of Mariposa and the National Park Service. The County of Mariposa has the lead responsibility for complying with the California Environmental Quality Act (CEQA), other California planning and zoning laws, its General Plan, the Wawona Town Planning Area Specific Plan, and building code implementation, while the National Park Service is responsible for complying with the National Environmental Policy Act (NEPA) and other federal laws, regulations, and policies relevant to the proposed action. The two agencies are coordinating their planning efforts under a 1987 Memorandum of Understanding. The agencies conducted joint public scoping activities in late 2002 and early 2003.

The process for complying with CEQA requires preparation of a Draft Environmental Impact Report (EIR) for circulation to the public and responsible agencies for review and comment. This document is the Draft EIR. After comments are received on the Draft EIR, responses to environmental issues raised in the comments are prepared by the state lead agency and are included in a Final EIR. The information in the Final EIR is considered by the County of Mariposa prior to a decision on the proposed project.

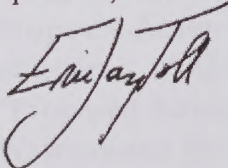
Under NEPA, the National Park Service follows a different process—preparing and circulating an Environmental Assessment (EA) for review and comment, and then responding to those comments, as appropriate, within the context of a Finding of No Significant Impact (or FONSI), if no significant effects on the human environment remain after the implementation of mitigation measures.

Within the NEPA process, there is only a single EA document—not a Draft EA followed by a Final EA. To facilitate the coordination of the state and federal processes, the EA will be prepared, circulated for comment, and incorporated into the Final EIR prepared under CEQA.

Because the two agencies are working together to assess this proposed action, and both state and federal environmental laws, regulations, and policies apply, the Draft EIR contains substantial information relative to NEPA and other federal requirements, including tentative summaries on the environmental consequences of the proposed action. When the EA is prepared, it will rely on much of the information and analysis contained in the Draft EIR.

The reader is strongly encouraged and welcomed to review and comment on both the CEQA and preliminary NEPA analysis contained in the Draft EIR. It is also requested that comments be provided, if possible, in a way that clarifies whether the concern relates to the CEQA analysis, the preliminary NEPA analysis, or both. The differentiation is somewhat technical in nature and will normally be distinguished in comments from other public agencies or environmental professionals. The members of the public are encouraged to express their comments in a form and content comfortable to the writer and not worry about the technical differentiation between NEPA and CEQA. We will assume that all comments from the public address both NEPA and CEQA.

Respectfully submitted,



Eric Jay Toll, Director
Mariposa Planning

EXECUTIVE SUMMARY

INTRODUCTION

This Draft Environmental Impact Report (EIR) evaluates the potential environmental impacts that may be associated with the Camp Wawona Redevelopment Project and Proposed Land Exchange (the “Proposed Action”) by the County of Mariposa (County) and the National Park Service. The Proposed Action is described in Chapter 2 of this document. The Draft EIR is intended to “identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided” (California Environmental Quality Act (CEQA), Public Resources Code [CEQA] §21002.1(a)). As noted in the Preface to this EIR, an Environmental Assessment (EA) meeting the requirements of the National Environmental Policy Act (NEPA) and National Park Service directives, policies, and guidelines will be prepared and circulated for review and comment by the National Park Service in conjunction with the Final EIR. The Final EIR and EA are anticipated to be circulated in the spring of 2004.

An EIR is intended to provide an objective, impartial source of information to be used by the lead agency and members of the public in their considerations of the project. The EIR itself does not determine whether or not the project will be approved, but only serves as an informational document in the planning and decision-making process.

IMPACTS, MITIGATION MEASURES, AND UNAVOIDABLE SIGNIFICANT IMPACTS

Chapter 5 of this document provides an analysis of the environmental consequences or “impacts” of the Camp Wawona Redevelopment Project and Proposed Land Exchange. In accordance with CEQA Guidelines §15123, a summary of the impacts of the Proposed Action is provided in Table ES-1 at the end of this section. Also provided in Table 3-1 are mitigation measures that are recommended to bring impacts of the Proposed Action to within identified thresholds of significance. Finally, the table indicates whether implementation of the recommended mitigation measures would reduce impacts to less-than-significant levels.

Each of the significant or potentially significant impacts of the Proposed Action would be reduced to less-than-significant levels following implementation of the mitigation measures summarized in Table ES-1. No unavoidable significant impacts under CEQA have been identified.

ALTERNATIVES TO THE PROPOSED ACTION

CEQA Guidelines §15126.6(a) requires that an EIR include a comparative evaluation of the Proposed Action with alternatives that are capable of attaining most of the project’s basic objectives. CEQA requires an evaluation of a “range of reasonable” alternatives. The “Proposed Action” analyzed in this Draft EIR was based on the redevelopment of Camp Wawona and the exchange of 15.36 acres of land currently owned by the Central California Conference of the Seventh-day Adventists (Seventh-day Adventists) for 18 acres of land

currently owned and managed by the National Park Service based on a formal land appraisal. As discussed in Chapter 3, Alternatives to the Proposed Action, the following four alternatives to the “Proposed Action” were considered and are analyzed in Chapter 5, Environmental Consequences:

- ▶ No Project Alternative
- ▶ No Land Exchange Alternative
- ▶ Reduced Land Exchange Alternative
- ▶ Minimal Land Exchange Alternative

EVALUATION OF ALTERNATIVES AND IDENTIFICATION OF THE ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines §§15126.6(e)(1), 15126.6(e)(2) state that the EIR shall identify an “environmentally superior” alternative based on the comparative analysis among project alternatives (but not including the No Project Alternative). In Chapter 5 of this document, the impacts of each of the four alternatives were compared to those of the Proposed Action to assess for lesser, similar, or greater levels of impacts. Based on this comparison, the No Project Alternative would be regarded as the environmentally superior alternative. However, the No Project Alternative meets none of the three “purpose and need” objectives.

When the No Project Alternative has been identified as the environmentally superior alternative, CEQA requires that an additional alternative be identified as the environmentally superior alternative in the absence of the No Project Alternative. Because the No Land Exchange Alternative would result in a reduced number and severity of impacts, it would be regarded as the environmentally superior alternative in the absence of the No Project Alternative. However, this alternative would not provide a buffer between the developments and activities at Camp Wawona and the Yosemite Wilderness Area, one of the primary objectives of the agencies as described in Chapter 1.

AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED DURING ENVIRONMENTAL REVIEW

During the public scoping process, a number of substantive comments were received stating concerns about various issues, most notably: traffic on Forest Drive, protection of biological resources, consistency with the Merced Wild and Scenic River Comprehensive Management Plan, consistency with the mission of the National Park Service, and community character related to possible future intensive development at Camp Wawona. Based on this input, the County has prepared and circulated this Draft EIR, which, where possible, addresses the concerns raised by the scoping comments. The County requests that reviewers submit comments on the Draft EIR. The County will respond to all comments received during the circulation period.

Table ES-1
Summary of Project Impacts and Mitigation

LAND USE AND PLANNING	
Impact 5.1-1: Consistency with Mariposa County Plans and Policies. Redevelopment of Camp Wawona would be conducted following an amendment to the County General Plan, an amendment to the WTPASP, and issuance of a Conditional Use Permit. These proposed actions would ensure that the redevelopment and future use of Camp Wawona would be compatible with the goals and policies of the County General Plan and the WTPASP.	
CEQA Significance:	Less than significant
NEPA Significance:	Less than significant
Mitigation: None	
Residual Impact: Less-than-significant	
Impact 5.1-2: Consistency with National Park Services Plans. Redevelopment of Camp Wawona would be conducted following an amendment to the WTPASP, a plan used to guide development in Wawona by the County and the National Park Service. This redevelopment would be consistent with Natural Zone (Natural Environment Subzone) defined in the Yosemite National Park General Management Plan and with the Wawona Developed Area Plan of the General Management Plan. The redevelopment would also be consistent with the Merced Wild and Scenic River Comprehensive Management Plan. The proposed action would be consistent with the Cultural Zone (Archaeological Subzone) only if archaeological resources that may be present could be preserved through mitigation. Mitigation for this impact is addressed in Section 5.5 – Cultural Resources.	
CEQA Significance:	Less than significant
NEPA Significance:	Less than significant with mitigation incorporated
Mitigation: Cultural Resource Plan Consistency. Implement the three following mitigation measures from section 5.5: • Mitigation Measure 5.5-2, Evaluation and Treatment of Known Historic Sites. • Mitigation Measure 5.5-3, Stop Construction if Cultural Resources are Discovered During Ground-Disturbing Activities. • Mitigation Measure 5.5-4, Archaeological Phasing and Land Exchange Revision.	
Residual Impact: Less-than-significant	

Table ES-1
Summary of Project Impacts and Mitigation

AIR QUALITY	
Impact 5.2-1: Short-Term Increases in Regional Criteria Pollutants and Precursors. Construction emissions are described as “short term” or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially PM₁₀. Fugitive dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and vehicle miles traveled onsite and offsite. ROG and NO_x emissions are primarily associated with gas and diesel equipment exhaust and the application of architectural coatings. With respect to the proposed project, demolition of the existing buildings on land that will be given to the National Park Service, and construction of new buildings on land that will be obtained from the National Park Service would temporarily generate emissions of ROG, NO_x, and PM₁₀ due to site grading and excavation, paving, application of architectural coatings, motor vehicle exhaust associated with construction equipment and employee commute trips, material transport (especially on unpaved surfaces), and other construction operations.	
CEQA Significance:	Less than significant with mitigation incorporated
NEPA Significance:	Less than significant with mitigation incorporated
Mitigation: Short-Term Increases in Regional Criteria Pollutants and Precursors. - Engine timing on diesel-powered equipment shall be retarded to reduce NO_x emissions; - Construction equipment shall be turned off when not in use; - Contractor shall develop a comprehensive construction activity management plan to minimize pieces of construction equipment operating and the extent of the site area worked during any given day; - Contractor shall ensure that construction NO_x equipment and maintenance vehicles are properly maintained and direct-injection diesel engines or gasoline-powered engines are used where feasible; and - To the extent feasible, alternative fueled construction equipment and vehicles shall be selected for use at the project site. All construction equipment and vehicles shall be fitted with emission reduction equipment, where feasible, and in accordance with manufacturers’ specifications. - Sprinkle all construction areas with water at least twice daily during excavation and other ground disturbing activities; - Keep stockpiles of soil moist or surrounded by windbreaks; - Cover trucks hauling dirt and debris off the side to reduce spillage onto paved surfaces; - Maintain at least 2 feet of freeboard on all haul trucks; - Use, where possible, water or chemicals for control of dust in construction operations, the construction of	

Table ES-1
Summary of Project Impacts and Mitigation

roadways and the clearing of land; and	
k. Apply asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts.	
Residual Impact:	Less-than-significant
Impact 5.2-2: Long-term Increases in Regional Criteria Pollutants and Precursors. In comparison to the existing facilities, indirect emissions associated with energy usage would be anticipated to decrease slightly due to increased energy efficiency and insulation requirements for the proposed structures. In addition, implementation of the proposed Master Plan would not result in a change in the number of campfire circles, in comparison to the existing facilities. However, as previously discussed, implementation of the proposed Master Plan would result in increased visitation, particularly during off-season months. Consequently, although the number of campfire circles would not change, predicted increases in visitation during the off-season months may result in an increased number of campfires. Corresponding increases in campfire emissions, primarily ROG and PM ₁₀ , could occur, which may contribute to existing ozone and PM ₁₀ nonattainment conditions in Yosemite Valley. Consequently, increased campfire emissions would be considered to have a moderate impact on local and regional air quality.	
CEQA Significance:	Less than significant
NEPA Significance:	Less than significant
Mitigation: Campfires shall be restricted to between the hours of 5:00 p.m. and 10:00 p.m. from May 1 through October 15. Campfires shall be prohibited October 16 through April 30.	
Residual Impact:	Less-than-significant
Impact 5.2-3: Localized Concentrations of Emissions. Implementation of the proposed Master Plan would not result in the operation of any major stationary or area sources of hazardous air pollutants. However, motor vehicles may contribute to increases in localized concentrations of carbon monoxide (CO). As a result, CO emissions are typically analyzed at a local rather than regional level.	
CEQA Significance:	Less than significant
NEPA Significance:	Less than significant
Mitigation: None	
Residual Impact:	Less-than-significant

Table ES-1
Summary of Project Impacts and Mitigation

NOISE	
Impact 5.3-1: Construction-related Increases in Ambient Noise Levels. Depending on the time of day during which construction activities would occur, nearby noise-sensitive receptors could experience noticeable increases in ambient noise levels of 3 dBA, or greater. Construction-related activities occurring in nighttime hours (10 pm to 7 am) would generally be more noticeable than those occurring during the day, due to a quieter ambient noise environment in the evening. CEQA Significance: Less than significant with mitigation incorporated NEPA Significance: Less than significant with mitigation incorporated	
Mitigation: Construction-related Increases in Ambient Noise Levels. - Noise-generating construction activities associated with the proposed project would comply with the following limitation on hours of operation: construction activities shall be limited to between the hours of 7 am and 10 pm from Monday through Friday, and between 9 am and 10 pm on Saturday and Sunday. This is typical of most local noise ordinances in the region and was used in this case, since no ordinance exists for Mariposa County. - All construction vehicles or equipment, fixed or mobile, would be equipped with properly operating and maintained mufflers and acoustical shields or shrouds, in accordance with manufacturers' recommendations.	
Residual Impact: Less-than-significant	
Impact 5.3-2: Increases in Stationary Source Noise Levels. The proposed redevelopment of Camp Wawona would not involve the relocation or use of any major stationary sources of noise. Continued use of the outdoor public address system, particularly during nighttime hours, would expose nearby residences and on-site visitors to increases in ambient noise levels. CEQA Significance: Less than significant NEPA Significance: Less than significant	
Mitigation: Increases in Stationary Source Noise Levels. - Use of the public address system would be limited to between the hours of 7 am and 10 pm from Monday through Friday, and between 9 am and 10 pm on Saturday and Sunday. - Public address system speakers shall be oriented such that sound transmission is directed away from nearby residential land uses.	

Table ES-1
Summary of Project Impacts and Mitigation

Residual Impact: Less-than-significant
Impact 5.3-3: Increases in Traffic Noise Levels. The expected increased use of Camp Wawona would result in relatively minor increases in vehicle traffic. The increased noise associated with the additional vehicle traffic would be less than 3 dBA, an increase that is not generally perceptible. CEQA Significance: Less than significant NEPA Significance: Less than significant
Mitigation: None
Residual Impact: Less-than-significant
Impact 5.3-4: Increases in Groundborne Vibration. The proposed project would not involve the use of any equipment or processes that would result in potentially significant levels of ground vibration. Some ground vibration would occur on a temporary basis, during construction. As a result, increased vibration levels would be considered less than significant. CEQA Significance: Less than significant NEPA Significance: Less than significant
Mitigation: None
Residual Impact: Less-than-significant
BIOLOGICAL RESOURCES
Impact 5.4-1: Effects of the proposed land exchange on significant biological resources. The proposed land exchange would result in the acquisition of 15.36 acres of land to be managed by the National Park Service. This land, as shown in Figure 2-4, establishes a buffer of 400 feet or more between Camp Wawona and the Yosemite Wilderness Area on the southern edge of the Seventh-day Adventists property. This buffer would improve separation distance and visual buffers, and support protection of natural resources within and adjacent to the wilderness area. The buffer is anticipated to reduce the edge effect of adjacent development and camp activities by limiting visual and auditory impacts of camp activities as perceived from the wilderness area, and by allowing for greater control of access for the wilderness area from the camp. Restoration of the land to be acquired, as described in the proposed action, would enhance the habitat values of this land. This is considered to be a local, long-term (permanent), minor, beneficial impact. No mitigation measures are required for this impact. The proposed action involves a transfer of land that could contain sensitive biological resources from federal ownership to non-federal

Table ES-1
Summary of Project Impacts and Mitigation

ownership. If these resources are present, this would constitute a reduction in the level of protection these sensitive resources may receive. The land to be exchanged from the National Park Service contains habitats that could support several special-status plant and animal species (see Section 4.4). Therefore, the land exchange must be contingent on the protection of any significant biological resources that might be present before any land exchange actions would be approved. Focused searches for the species of concern would occur during the appropriate season to determine if they are present and the results of these searches would be used to define the specific protection measure.	
CEQA Significance:	Not applicable (pertains only to federal land exchange action)
NEPA Significance:	Less than significant with mitigation incorporated
Mitigation: Protect significant biological resources If special-status plant or animal species are present on the land to be exchanged from the National Park Service to the Seventh-day Adventists, these resources would be protected by one of the following actions: • Exclusion of the land containing the sensitive resources from the exchange, • Application of deed restrictions on the property to be exchanged out of federal management to protect the sensitive resource, or • Offset the loss of protection of a sensitive resource by increasing the protection of natural resources of equal or greater value on the private property to be acquired.	
Residual Impact: Less-than-significant	
Impact 5.4-2: Effects on Sierra mixed coniferous forest (including California black oaks) and related wildlife habitat. Redevelopment of Camp Wawona would involve the removal of mature vegetation, including California black oaks. California black oaks are considered a sensitive and valued resource by Yosemite National Park. The removal of mature vegetation would also adversely affect wildlife species that use this habitat to forage and breed. The proposed action could also introduce or cause the spread of weeds. The 18-acre National Park Service parcel has limited value to wildlife due to the fragmented nature of this habitat. With Forest Drive to the north, Camp Wawona to the east, and nearby private residences to the south and west, this undeveloped piece of land is not of high value. Following restoration of the 15.36 acres to be exchanged from the Seventh-day Adventists to the National Park Service, a more contiguous forested habitat would be established next to the Yosemite Wilderness Area.	
CEQA Significance:	Less than significant with mitigation incorporated
NEPA Significance:	Less than significant with mitigation incorporated

Table ES-1
Summary of Project Impacts and Mitigation

Mitigation:	Reduce impacts from development activities to Sierra mixed coniferous forest and related wildlife habitat. The following avoidance measures and best management practices would be employed to minimize impacts on native vegetation. • The extent of areas to be disturbed during construction would be limited to those areas needed to be cleared or graded for the construction of new facilities. Construction area boundaries, including staging areas, would be clearly marked and fenced to ensure that construction activities do not impact vegetation outside of the approved construction areas. All construction activity and storage of construction materials would occur within these marked areas. Staging areas would be placed in locations already subject to disturbance, or in locations that would have to be cleared for facility construction. • Direct removal and damage (e.g., pruning and soil compaction within the dripline) of large trees, particularly black oaks, would be avoided as much as possible. The following measures would be followed: – As part of the habitat restoration plan described below, a tree mitigation and monitoring plan would be completed by a qualified biologist or arborist for all oak and other native trees. The plan would include an inventory of trees to be preserved and those to be removed, including those that may be disturbed from construction activities. For trees to be removed, the plan would define replacement ratios and species, location of replacement plantings, local seed/container stock sources, description of planting methods, appropriate irrigation schedules, a monitoring schedule, success criteria, remedial measures, root rot management measures (if infection is diagnosed in trees to be removed), and a fact sheet describing the value and care of oaks. The plan would be developed in coordination with National Park Service and reviewed by Mariposa County prior to the issuance of grading or building permits. The plan would be implemented as soon as practicable after project construction is complete. – Individual oak trees or groups of trees to be retained during construction would be protected by establishing a root protection zone (RPZ) that is 1.5 times the distance from the trunk to the dripline prior to the initiation of any ground-disturbing activities, wherever feasible. Temporary construction fencing would be installed and no grading, trenching, or vegetative alteration would be allowed in the RPZ. – Side-casting and stock-piling activities would be conducted away from oak trees and other native trees, as much as possible. Side-casting or stock-piling of materials within the dripline of oak trees and other native trees would be prohibited. – Vehicles and heavy construction equipment, such as backhoes and excavators, would not be parked within or adjacent to the dripline of oak trees.
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Table ES-1
Summary of Project Impacts and Mitigation

	- Individual oak trees and other native trees whose removal during project implementation is unavoidable would be replaced by planting seedlings or acorns from local genetic stock as close to the original site as possible. Replacement ratios and success criteria would be implemented in accordance with the tree mitigation and monitoring plan described above. - Prior to construction activities, a noxious weed abatement program would be developed. The program would be implemented during all phases of construction, and would include provisions to steam-clean and inspect construction equipment to ensure that it arrives on-site free of mud or seed-bearing material; fill soil, mulch, seeds and straw material would be certified as weed-free; and areas of noxious weeds would be identified and treated pre-construction. - Following construction, implement an on-going noxious weed abatement and control program. - Enforce construction specifications regarding topsoil segregation, salvage and reuse, vegetation protection, and finished grading. - Landscaping near development would include native species appropriate to the area or National Park Service-approved non-invasive, non-native landscape plants.
Residual Impact:	Less-than-significant
5.4-3: Effects of development activities on sensitive habitats. Redevelopment of Camp Wawona is restricted to the area south of Forest Drive. Therefore, the proposed action would not affect the riparian habitat along the South Fork Merced River that is located to the north of Forest Drive. Two drainage swales subject to jurisdiction of CDFG and RWQCB are located in the 18-acre parcel proposed for exchange by the National Park Service. Redevelopment of the camp may result in disturbances to these swales, which are considered sensitive resources pending formal determination by CDFG and RWQCB. CEQA Significance: Less than significant with mitigation incorporated NEPA Significance: Less than significant with mitigation incorporated	
Mitigation:	Reduce impacts to two drainage swales Avoid fill of or ground-disturbing activities in or adjacent to drainage swales on the 18.0-acre National Park Service parcel to be exchanged and redeveloped, if feasible. In order to ensure protection during construction activities, portions of the drainage swales to be avoided would be marked and fenced. The protective fencing would be placed to provide a 25-foot-wide buffer from the outer margin of each drainage swale. If avoidance of these features would not be feasible, the applicant would implement the following mitigation measures:

Table ES-1
Summary of Project Impacts and Mitigation

• Before project implementation, the applicant would contact the RWQCB to determine whether alteration of the drainage swales would require "Section 401 certification" under the Porter-Cologne Act. If they are considered sensitive waters of the state by the RWQCB, authorization for alteration to these drainage swales would be secured via the Clean Water Act, Section 401 certification process prior to project construction in the vicinity of the swales. • Any mitigation measures determined through the 401 permitting process would be implemented by the applicant. • The applicant would also contact CDFG to determine whether the drainage swales onsite represent Waters of the State. If this were the case, then a Streambed Alteration Agreement would be obtained from CDFG (pursuant to Sections 1601-1603 of the State Fish and Game Code) for any proposed modifications of the features.
Residual Impact: Less-than-significant
Impact 5.4-4: Effects on special-status plant species from development activities. The project site, which includes the existing Camp Wawona property and the 18 acres proposed for exchange from the National Park Service, contains native habitats that could support a number of special-status plants. While none of these species has been documented on the project site, redevelopment of Camp Wawona could result in direct and indirect impacts to these species because construction would remove suitable habitat for these species. Restoration of the 15.36-acre parcel of land to be exchanged from the Seventh-day Adventists would allow for a local increase and enhancement of potentially suitable habitat for special-status plants over time. CEQA Significance: Less than significant with mitigation incorporated NEPA Significance: Less than significant with mitigation incorporated
Mitigation: Reduce impacts from development activities to special-status plant species Before the initiation of any ground-disturbing or vegetation-clearing activities, the applicant would retain a qualified botanist to conduct surveys for Yosemite onion, snapdragon, Child's blue-eyed Mary, mountain lady's-slipper, Congdon's woolly sunflower, Yosemite woolly sunflower, short-leaved hulsea, Congdon's lewisia, trillium, and Hall's wyethia. The botanist would conduct surveys for these special-status plant species at the appropriate time of year when the target species would be in flower and therefore clearly identifiable (i.e. blooming periods). The blooming periods for target species are given in Table 4.4-2. Surveys would be conducted following the CDFG-approved protocol for surveying for special-status plant species.

Table ES-1
Summary of Project Impacts and Mitigation

	If no special-status plants were found during focused surveys, the botanist would document the findings in a letter report to the applicant, National Park Service, and County, and no further management measures would be required. If special-status plants were found, the following measures would be implemented: • If the populations can be avoided, they would be clearly marked in the field by a qualified botanist for avoidance during construction activities. • If special-status plant populations could not be avoided, consultations with CDFG and/or National Park Service would be required, depending on the listing status of the species present. These consultations would determine appropriate mitigation measures for any populations that would be affected by the implementation of the project. Appropriate measures may include the creation of off-site populations through seed collection or transplanting, preservation and enhancement of existing populations, or restoration or creation of suitable habitat in sufficient quantities to compensate for the impact. • The applicant would implement all measures determined necessary during this agency consultation.
	Residual Impact: Less-than-significant
	Impact 5.4-5: Effects on Special-Status Wildlife Species. The native forested habitat on the project site, which includes the existing Camp Wawona property and the 18 acres proposed for exchange from the National Park Service, could support a number of special-status animals. These animals, including birds, bats, and the Pacific fisher, could use the area for nesting/denning, roosting, and foraging activities. While none of these species has been documented on the project site, redevelopment of Camp Wawona could result in direct and indirect impacts to these species. The 18-acre National Park Service parcel has limited value to wildlife due to the presence of surrounding developments (e.g., Forest Drive, Camp Wawona). Following restoration of the 15.36 acres to be exchanged from the Seventh-day Adventists to the National Park Service, a more contiguous forested habitat would be established next to the Yosemite Wilderness Area. CEQA Significance: Less than significant with mitigation incorporated NEPA Significance: Less than significant with mitigation incorporated
	Mitigation: Reduce impacts to special-status wildlife species In order to minimize impacts to special-status wildlife species, the following measures would be implemented: a) Tree removal would take place between September 1st and October 1st. This would place tree removal outside of the pacific fisher pupping season (typically between February and May), outside of bird nesting season (typically February to August), after the bat hibernation period (typically late fall to early spring), and

Table ES-1
Summary of Project Impacts and Mitigation

prior to the bat pupping season (typically early spring through mid-August). If tree removal would occur outside of this window, protocol-level breeding surveys for the appropriate species, depending on the season, would be conducted prior to tree removal. If surveys were required, they would be performed with mitigation measures as described in (b) and (c) below. The surveys for pacific fishers, if required, would involve survey for the presence of pacific fishers only, due to the difficulty in locating natal or maternal dens. If the presence of pacific fishers is confirmed, tree removal would be delayed until August 15, when fisher pups are mobile.

- b) To minimize impacts to roosting bats, prior to demolition, removal, or movement of any existing structures, a qualified biologist would conduct a survey for the existence of roosting bats. If surveys conducted in the fall did not reveal any bat species, then project actions should occur within three days in order to prevent the destruction of any bats that could move into the area after the survey. If the site were being used as a winter roost, then the project actions would occur either prior to hibernation (between September 1 and October 1) or after hibernation (between January 15 to February 15). If surveys conducted in the spring revealed that the structures were being used as a nursery colony, the action would not occur until after August 15, when the pups are weaned and are free-flying. If the survey revealed a day or night roost, a one-way exclusion device approved by CDFG would be installed. This would allow the bats to leave the structure but not re-enter. The exclusion device would remain installed for an appropriate amount of time (as determined by CDFG and/or USFWS as appropriate to the affected species) to allow bats to leave the structure prior to activity. If roosting sites were to be removed, appropriate mitigation measures would be implemented, determined through consultation with CDFG, to avoid or reduce adverse habitat reduction impacts.
- c) To minimize adverse effects on nesting birds, grading, construction, demolition, and movement of structures would be avoided during nesting season (USFWS considers the nesting season to be March 1 to August 31). If these actions were to take place during the nesting season, a qualified biologist would conduct surveys for nesting birds, no more than one week prior to construction disturbance. If any special-status species were observed nesting, a determination would be made by a qualified biologist as to whether or not the proposed activity would impact the active nest or disrupt reproductive behavior. If it were determined that the action would not impact an active nest or disrupt breeding behavior, construction would proceed without any restriction or mitigation measure. If it were determined that the action would impact an active nest or disrupt breeding behavior, then avoidance strategies would be implemented, in consultation with CDFG. Construction could be delayed within 500 feet of such a nest, until a qualified biologist determines that the subject birds were no longer nesting or until any juvenile birds were no longer using the nest as

**Table ES-1
Summary of Project Impacts and Mitigation**

their primary day and night roost. d) To reduce impacts to special-status species and their habitat during construction, the following methods shall be used. • Special-status species or habitats would be demarcated using high-visibility fencing and signs. • Routes of escape would be maintained from excavated pits and trenches for animals that might fall in. During construction, maintain vigilance for animals caught in excavations and take appropriate actions to free them. • Food-related refuse would be controlled by disposal in animal-resistant receptacles of National Park Service-approved design; food on the project site would be stored in animal-resistant containers; the project site would be surveyed for food residues at the end of each workday, and any such residues would be collected and deposited in an animal-resistant trash receptacle; no food garbage would be deposited in open-top construction dumpsters. • An educational program on the above special-status species would be presented by a qualified biologist to construction and tree removal crews prior to their actions on the project site. • Speed limits in and approaching the construction area would be low and posted in appropriate locations. e) To reduce impacts to special-status species and their habitat by the proposed development of the National Park Service land, the following methods would be used. • The proposed action would be designed to avoid special habitat features with obvious high value to wildlife, like tree snags, as much as possible. Natural processes would be maintained to preserve the presence of very large, old trees, snags, large-diameter logs, and decaying wood across the landscape. • Lighting would be minimized as much as practicable. Where night lighting is necessary, lighting would be designed to be minimal, directed downward, and shielded. • A natural resource protection, interpretation, and education program would be created and implemented to promote understanding for camp visitors and staff. Standard measures would include signage, presentations, and biological monitoring activities.	
Residual Impact:	Less-than-significant
Impact 5.4-6: Effects on Wildlife Movement Corridors. The riparian corridor along the South Fork Merced River is expected to serve as an important corridor for wildlife movements. The proposed action would not involve the construction of new facilities in this area. Therefore, no adverse effects to wildlife movements along the South Fork Merced River are expected. Animals that may use the 18-acre	

Table ES-1
Summary of Project Impacts and Mitigation

National Park Service parcel for access to the river (e.g., deer) are expected to continue using this parcel after the camp is redeveloped, if they are tolerant of human activities, or to access the river to the east of Camp Wawona, where extensive tracts of undeveloped land occur nearby.	
CEQA Significance:	Less than significant
NEPA Significance:	Less than significant
Mitigation: None	
Residual Impact: Less-than-significant	
CULTURAL RESOURCES	
Impact 5.5-1: Potential Destruction of or Damage to Historic Structures. Redevelopment of Camp Wawona would involve the demolition, alteration, or disturbance of existing structures, some of which are more than 45 years old. These structures are not associated with important historical people or events, do not possess significant architectural values, and do not contain information important in history. These structures do not appear to be eligible for inclusion in the National Register of Historic Places or the California Register of Historical Resources. Formal determinations of eligibility by the National Park Service, and consultation with the State Historic Preservation Officer under Section 106 of the National Historic Preservation Act, have not occurred yet.	
CEQA Significance:	No impact
NEPA Significance:	No impact
Mitigation: None	
Residual Impact: None	
Impact 5.5-2: Potential Destruction of or Damage to Known Historic Archaeological Sites. Two historic-era archaeological sites are located on the western margin of the 18-acre parcel of National Park Service land proposed for exchange to the Seventh-day Adventists. These sites may extend onto the exchange parcel, and could be impacted by the proposed redevelopment of Camp Wawona. Pending confirmation of specific site locations, evaluations of these resources for inclusion in the National Register of Historic Places and the California Register of Historical Resources, and compliance with Section 106 of the National Historic Preservation Act, and final site design, the potential exists that the proposed action would result in the destruction of or damage to these archaeological resources.	
CEQA Significance:	Less than significant with mitigation incorporated
NEPA Significance:	Less than significant with mitigation incorporated

Table ES-1
Summary of Project Impacts and Mitigation

Mitigation: Evaluation and Treatment of Known Historic Sites.

The precise location of the two refuse deposits relative to the proposed exchange lands and the redevelopment activities would be confirmed. If these sites are within the proposed action area, the steps detailed below would be completed before the land exchange could be implemented and before grading permits could be issued.

Phase I

- Focused background research would be conducted to identify, gather and analyze available information regarding the history, development, and land-use of the project area.
- Field investigations by a qualified archaeologist would further define the location and nature of the archaeological resources.
- Report production would document the results of the background research and field investigation. Reports would be filed with the appropriate agencies and information centers.

Phase II

If one or both of the known historic sites are found to occur within the proposed action area, but are removed from the land to be exchanged to the Seventh-day Adventists, further steps may not be necessary. If the sites are present and remain in the area proposed for exchange, the following steps would be implemented:

- A scope of work and research design would be prepared to establish the goals of subsurface testing, and develop a context within which the findings will be evaluated.
- Supplementary background research would be conducted, as necessary, to identify possible historic references related to the deposits.
- Fieldwork would be used to determine the spatial extent, age, and characteristics of the archaeological deposits.
- CRHR and NRHP evaluations would be documented in a technical report, including a recommendation to SHPO as to resource eligibility, based on background, the research design, and fieldwork. Reports would be filed with the appropriate agencies and information centers.

Phase III

- If either of the resources were determined to be eligible to the CRHR or the NRHP, a determination of treatment measures (e.g., preservation in place, acceptance of loss, data recovery, interpretation,) would be developed in consultation with the SHPO in accordance with state and federal laws and regulations.

Residual Impact: Less-than-significant

Table ES-1
Summary of Project Impacts and Mitigation

Impact 5.5-3: Potential Destruction of or Damage to Undiscovered Archaeological Sites. The proposed action site, including the 18-acre parcel of National Park Service land proposed for exchange to the Seventh-day Adventists, is located on an old terrace along the South Fork Merced River, and a thick layer of forest duff covers the ground. Buried prehistoric or historic-era archaeological sites could occur within the project area. These buried deposits could be uncovered and damage during grading and excavation activities associated with the proposed redevelopment of Camp Wawona. CEQA Significance: Less than significant with mitigation incorporated NEPA Significance: Less than significant with mitigation incorporated	
Mitigation: Stop Construction if Cultural Resources are Discovered During Ground-Disturbing Activities. In the event that previously unknown archaeological resources are discovered during proposed land alteration activities, the construction contractor would cease work that could further disturb such resources and notify the Camp Director regarding the discovery. Work could continue on other parts of the building site while cultural resource evaluation or treatment is being completed. The Seventh-day Adventists would contact the County Planning Department, the National Park Service, and an archaeologist meeting the Secretary of the Interior's professional qualifications. The archaeologist would evaluate the resource in accordance with state and federal guidelines. If necessary, appropriate treatment measures will be developed in consultation with the National Park Service and County. If required, treatment of the resource, in accordance with a plan approved by the responsible agencies, would be implemented before potentially destructive work within the area of the resource could resume. Residual Impact: Less-than-significant	
Impact 5.5-4: Exchange of Federal Lands Containing Historic Properties. The proposed action site, including the 18-acre parcel of National Park Service land proposed for exchange to the Seventh-day Adventists, is located on an old terrace along the South Fork Merced River, and a thick layer of forest duff covers the ground. Buried prehistoric or historic-era archaeological sites and traditional cultural properties could occur within this proposed exchange parcel. The National Park Service must comply with Section 106 of the National Historic Preservation Act prior to implementation of the proposed land exchange. Compliance with Section 106 involves three phases, including inventory, evaluation, and treatment (if resources eligible for inclusion in the National Register of Historic Places would be adversely affected by the proposed undertaking). CEQA Significance: N/A (there are no state or local agency decisions involved in this process) NEPA Significance: Less than significant with mitigation incorporated	
Mitigation: Archaeological Phasing and Land Exchange Revision Prior to the execution of documents giving final approval to the proposed exchange of lands between National	

Table ES-1
Summary of Project Impacts and Mitigation

Park Service and the Seventh-day Adventists, the multi-step process detailed below would be applied, as appropriate.

Phase I

- Background research would be used to identify, gather, and analyze available information regarding the history, development, land-use, and archaeological sensitivity of the project area.
- Field investigations by a qualified archaeologist would be conducted to identify the presence or absence of cultural remains.
- A report would be prepared to document the results of the background research and field investigation. Reports would be filed with the appropriate agencies and information centers.

Phase II

- A scope of work and research design would be prepared to establish the goals of subsurface testing and develop a context within which the findings would be evaluated.
- Background research would be conducted to supplement the Phase I research, as necessary.
- Fieldwork would be used to determine spatial extent, age, and characteristics of any archaeological deposits.
- NRHP evaluations, including report production, would be used to make a recommendation to SHPO as to the NRHP eligibility, as well as to document background research and fieldwork. Reports would be filed with the appropriate agencies and information centers.

Phase III

If resources eligible for listing in the NRHP (e.g., archaeological sites or traditional cultural properties) were identified within the land proposed for exchange from the National Park Service to the Seventh-day Adventists, a determination of treatment measures would be developed in consultation with the SHPO in accordance with federal laws and regulations. These measures would include one of the following:

- Revise the proposed exchange to exclude the land containing sensitive areas from the exchange, maintaining these resources under direct National Park Service management and protection;
- Apply deed restrictions on the property to be exchanged out of federal management to preserve the sensitive resource in place;
- Conduct data recovery, interpretation, or other treatment measures to resolve the potential loss of the resource.

Residual Impact: Less-than-significant

Table ES-1
Summary of Project Impacts and Mitigation

HYDROLOGY AND WATER QUALITY

Impact 5.6-1 Long-term Changes in Drainage and Runoff. Redevelopment of Camp Wawona would involve construction activities that would compact soil, and would create new impervious surfaces (e.g., parking areas, building rooftops) that contribute to increased water runoff, particularly during storm events. Restoration of the 15.36 acres of land to be exchanged from the Seventh-day Adventists would include removal of impervious surfaces and the return of these surfaces to a natural condition. The net result in these changes would be a relatively small incremental increase in the overall surface area of developed facilities. No development activities are proposed in the 100-year floodplain of the South Fork Merced River. A final drainage plan that provides specification for facilities necessary to ensure that the rate of stormwater runoff does not exceed the pre-project conditions for a 100-year storm event would be reviewed and approved by the agencies before building or grading permits would be issued. Because there are currently no onsite stormwater detention or retention facilities at Camp Wawona, and the proposed redevelopment would include drainage control/water quality features, off-site runoff during smaller, more frequent storm events would be reduced following redevelopment of the camp.

CEQA Significance: Less than significant

NEPA Significance: Less than significant

Mitigation: None

Residual Impact: Less-than-significant

Impact 5.6-2: Impacts to Groundwater Recharge or Use. Redevelopment of Camp Wawona would involve construction activities that would compact soil, and would create new impervious surfaces (e.g., parking areas, building rooftops) that contribute to reduced infiltration of surface drainage to the groundwater aquifer. Installation of on-site detention and retention facilities for stormwater (see Impact 5.6-1) and restoration of the 15.36 acres of land to be exchanged from the Seventh-day Adventists to a natural condition would reduce this impact. Project long-term use of groundwater for Camp Wawona would not change appreciably from current conditions, and on-site wells have sufficient capacity to supply the future needs of the camp.

CEQA Significance: Less than significant

NEPA Significance: Less than significant

Mitigation: None

Residual Impact: Less-than-significant

Impact 5.6-3: Temporary Construction-related Water Quality Effects. Redevelopment of Camp Wawona would involve construction activities (e.g., clearing, grading, excavating) that would expose soil to rain and wind. The disturbed soil would be subject to erosion and

Table ES-1
Summary of Project Impacts and Mitigation

the discharge of sediment via stormwater runoff to off-site locations, including the South Fork Merced River. Construction materials (e.g., fuels, oils, paints, concrete) could also be conveyed off-site during storm events, potentially causing harm to fish and other aquatic life. The magnitude of this impact would be affected by the erodibility of the soil, the extent of the disturbed area at any one time, the proximity to receiving waters, and the amount of precipitation falling on disturbed ground. Construction activities could occur over a 10-year period. Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), including Best Management Practices, would be required to obtain a permit from the Regional Water Quality Control Board under the National Pollutant Discharge Elimination System (NPDES). Compliance with the SWPPP and the NPDES permit would minimize construction-related water quality effects.	
CEQA Significance:	Less than significant
NEPA Significance:	Less than significant
Mitigation: None	
Residual Impact: Less-than-significant	
Impact 5.6-4: Operations-related Water Quality Effects. Redevelopment and future use of Camp Wawona would involve activities that could result in the transport of contaminants to local drainage courses or the South Fork Merced River. Potential contaminants include oil, grease, and fuel associated with motor vehicle use of roads and parking lots, and wastes associated with reereational activities such as horseback riding, hiking, and swimming. Recreational camp activities could also disturb steep slopes and erodible forest soils, contributing to soil erosion. Because Camp Wawona focuses on the use of native vegetation, potential contamination from pesticides and fertilizers is not expected to be significant. These operation-related issues are all existing conditions. The relatively small increase in proposed use of the camp would result in a relatively small increase in these impacts. The number of horses used at the camp would not change, nor would the nature of recreational activities in the South Fork Merced River floodplain. The installation of retention and detention facilities for stormwater runoff, which do not exist at Camp Wawona at this time, would further reduce the potential of off-site contamination during storm events (see Impact 5.6-1).	
CEQA Significance:	Less than significant
NEPA Significance:	Less than significant
Mitigation: None	
Residual Impact: Less-than-significant	

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GEOLOGY AND SOILS

Impact 5.7-1: Construction and Long-term Operation-related Erosion. Redevelopment of Camp Wawona would involve construction activities (e.g., clearing, grading, excavating) that would expose soil to rain and wind. The Conceptual Master Plan (see Figure 2.6) takes into account the varied topography of the project site, and minimizes grading and excavation activities on slopes in excess of 20 %. Soil disturbed during construction would be subject to erosion and the discharge of sediment via stormwater runoff to off-site locations, including the South Fork Merced River. Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), including Best Management Practices, would be required to obtain a permit from the Regional Water Quality Control Board under the National Pollutant Discharge Elimination System (NPDES). Compliance with the SWPPP and the NPDES permit would minimize construction-related water quality effects (see Impact 5.6-3). Long-term operation of Camp Wawona would involve recreational activities (e.g., horseback riding) that could damage vegetation, compact the ground surface, or disturb soils leading to erosion. These long-term effects would not be expected to change appreciably from existing conditions, because the projected increase in use of the camp is relatively small, and no additional horses would be used.

CEQA Significance: Less than significant

NEPA Significance: Less than significant

Mitigation: None

Residual Impact: Less-than-significant

Impact 5.7-2: Seismic Hazards. The project site, including the current Seventh-day Adventists property and the 18-acre National Park Service parcel, is in an area of moderate risk of seismic activity. Ground shaking could expose construction workers, visitors, and camp personnel to injury. Ground shaking is an unavoidable hazard for all facilities in the project area. The intensity of ground shaking depends on the magnitude of the earthquake, the distance of the facility from the epicenter of the earthquake, and the duration of the event. The risk to camp visitors and camp employees is currently present. The fact that most of the existing structures at Camp Wawona are comparatively old with respect to modern building codes, building materials, and construction practices, indicates that the safety of facilities and resistance to failure during seismic events would be improved.

CEQA Significance: Less than significant

NEPA Significance: Less than significant

Mitigation: None

Residual Impact: Less-than-significant

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Summary of Project Impacts and Mitigation

AESTHETICS AND VISUAL RESOURCES	
Impact 5.8-1: Impacts on a Scenic Vista. The redevelopment of Camp Wawona would not occur within a scenic vista visible to tourists or motorists. There are no designated scenic vistas near the proposed action site. No impact to scenic vistas would occur.	
CEQA Significance:	No impact
NEPA Significance:	N/A (this is a CEQA-only consideration)
Mitigation: None	
Residual Impact: Less-than-significant	
Impact 5.8-2: Substantial Damage to Scenic Resources, including but not limited to, Trees, Rock Outcroppings, and Historic Buildings within a State Scenic Highway. The redevelopment of Camp Wawona would not occur within the viewshed of a scenic highway. State Route 140 is a designated scenic highway, but is approximately 15 miles from the proposed action. State Routes 41 and 49 are eligible for designation under the scenic highway program. State Route 41 is approximately 4 miles to the south of Camp Wawona. State Route 49 is approximately 8 miles away. The proposed action site is not visible from either of these roads, so no visual impacts to scenic highways would occur.	
CEQA Significance:	No impact
NEPA Significance:	N/A (this is a CEQA-only consideration)
Mitigation: None	
Residual Impact: Less-than-significant	
Impact 5.8-3: Substantial Degradation of the Existing Visual Character or Quality of the Site and its Surroundings. The redevelopment of Camp Wawona would involve the removal of mature vegetation and the construction of new buildings and other structures. The forested, undeveloped 18-acre parcel of National Park Service land proposed for exchange would be altered, with the introduction of new linear elements and new colors into the existing natural environment. Adherence to development standards, including vegetative screening, use of appropriate colors for exterior painting, and lighting standards, would be required during redevelopment of the camp. Impacts to the existing visual character or quality of the site would be less than significant with mitigation incorporated.	
CEQA Significance:	Less than significant with mitigation incorporated
NEPA Significance:	N/A (this is a CEQA-only consideration)

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Mitigation: Use Previously Disturbed Areas for Staging Areas.

- Minimize development footprints by placing staging areas in previously disturbed areas and away from sensitive receptors (i.e., residences along Forest Drive).
- The maximum building coverage would be limited to 10 % of the site. Lot coverage is defined as the area of the lot covered by buildings or other enclosed structures.

Use Visually Compatible Building Materials and Colors.

- Building materials that are visually compatible or do not compete with the landscape would be used. All buildings would be painted using colors compatible with the natural environment (e.g., brown, forest green). Preferable building colors would be two shades darker than the natural environment.

Use Non-Reflective Surfaces.

- All roofing and fencing would have non-reflective surfaces.

Provide Vegetative Screening or Buffer to Screen Facilities, Where Applicable.

- Vegetative screening for camp buildings would be provided, where applicable, with retention of the existing forest landscape to be used as screening whenever possible. A visual buffer would be provided along the south side of Forest Drive. This buffer would aid in screening the facilities from this public road. In addition, an undeveloped corridor 50-feet-wide would be preserved on the west side of the project boundary to provide a buffer between the facilities and the closest private residences.
- No building would be constructed higher than 35 feet above the average ground level, or no greater than two stories, unless approved as to compliance with the fire safety regulations of the agency providing structural fire protection service in the area. No accessory structure would exceed 20 feet in height from the average ground level.

Restrict Water Tank Height and Color.

- All water tanks would be no more than 35 feet above the average ground level and would be painted forest green to blend in with the natural environment. These tanks would be placed away from sensitive viewsheds (i.e., closest residences).

Linear Infrastructure Should be Placed to Blend With the Natural Environment.

- Installation of linear infrastructure (e.g., power lines) would not entail clearing of forested corridors. Electric transmission facilities and telephone poles would be placed above-ground to avoid clearing corridors and disturbing native soil. Utility poles would be brown in color and would be placed in a manner to blend with the natural environment, to the extent practical.

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Grading would be confined primarily to areas sloped at 20% or less. If grading activities are necessary within areas sloped at 20% or greater, an erosion control plan shall be prepared identifying appropriate erosion control measures (see Section 5.6).	
Residual Impact:	Less-than-significant
Impact 5.8-4: New Source of Substantial Light or Glare which would Adversely Affect Day or Nighttime Views in the Area. The redevelopment of Camp Wawona would involve the construction of new facilities that could cause glare, and would involve the installation and use of new outdoor lighting. The camp is located close to Forest Drive, and two private residences are nearby. Adherence to development standards and mitigation measures, including vegetative screening, use of appropriate colors for exterior painting, and lighting standards, would be required during redevelopment of the camp and to reduce impacts to less than significant levels with mitigation. CEQA Significance: Less than significant NEPA Significance: N/A (this is a CEQA-only consideration)	
Mitigation: Shield and Direct Lighting. All lighting should be shielded and point downward to avoid day or nighttime glare.	
Residual Impact:	Less-than-significant
Impact 5.8-5: Views from KOP 1 – Parking Lot near Swinging Bridge to Chilnualna Falls Trailhead. The northeastern extent of Camp Wawona is currently visible from this location, although views are obstructed by mature vegetation. The trailhead is also at a lower elevation than the camp, reducing the visibility of the camp structures. Views from the trailhead are temporary in nature, since the area is used by recreationalists, rather than permanent residents. The redeveloped facilities at Camp Wawona would be barely perceivable, and would only be noticeable briefly while entering and exiting the parking lot. Construction activities in proximity to Forest Drive would be more evident by people driving to and from the trailhead. CEQA Significance: Less than significant NEPA Significance: Less than significant	
Mitigation: None	
Residual Impact:	Less-than-significant
Impact 5.8-6 Views from KOP 2 – South Fork Merced River. Camp Wawona is not visible from the South Fork Merced River, which is more than 500 feet away and at a lower elevation. The mature riparian vegetation between the river and Forest Drive, combined with	

Table ES-1
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the embankment that defines the river margin, preclude views of the buildings at Camp Wawona. The redeveloped facilities at Camp Wawona would not be perceivable.	
CEQA Significance:	Less than significant
NEPA Significance:	Less than significant
Mitigation: None	
Residual Impact: Less-than-significant	
Impact 5.8-7: Views from KOP 3 – Residence along Forest Drive. A private residence along Forest Drive, located several hundred feet west of the proposed redevelopment area, would have an immediate view of the new camp facilities. Some of the existing vegetation on the 18-acre National Park Service would be removed to facilitate construction of new structures, which would introduce linear elements and color variations to the existing visual environment. These changes would be visible from the residence on a long-term basis. Adherence to development standards, including vegetative screening along Forest Drive, the use of appropriate colors for exterior painting, and lighting standards, would be required during redevelopment of the camp.	
CEQA Significance:	Less than significant
NEPA Significance:	Less than significant
Mitigation: None	
Residual Impact: Less-than-significant	
Impact 5.8-8: Views from KOP 4 – Residences Along Bluffs. Several residences are located on the north side of the South Fork Merced River, and have a view across the river to the south. Because of vegetative screening provided by the trees between the South Fork Merced River and Forest Drive, and the distance involved, Camp Wawona is not visible from these residences. The new facilities proposed for the redevelopment of Camp Wawona would not be perceivable from this location, but light emanating from the camp during nighttime hours could be visible. Adherence to the lighting standards incorporated in the development standards would be required.	
CEQA Significance:	Less than significant
NEPA Significance:	Less than significant
Mitigation: None	
Residual Impact: Less-than-significant	

Table ES-1
Summary of Project Impacts and Mitigation

Impact 5.8-9 KOP 5 -Trail from Mariposa Grove to Camp Wawona. The trail from Mariposa Grove to Camp Wawona is used by trail users. The land exchange would require the removal of existing facilities and for the land to be recontoured, revegetated, and returned to a native condition.	
CEQA Significance:	Less than significant
NEPA Significance:	Less than significant
Mitigation: None	
Residual Impact: Less-than-significant	
TRAFFIC AND TRANSPORTATION	
Impact 5.9-1: Impacts to Traffic on Forest Drive. The redevelopment of Camp Wawona would increase the number of visitors using the camp, primarily during the off-peak period (i.e., from late summer to late spring). This additional use would increase the number of vehicle trips on Forest Drive, but not above the average annual daily traffic volume of 300 ADT proposed as a County threshold between Service Level 5 and Service Level 6 on low-volume rural roads. The increase in traffic would not be substantial in relation to existing traffic loads or the capacity of Forest Drive, and would not exceed a level of service standard for the Forest Drive/Wawona Road intersection. Due to the narrow paved width of Forest Drive in some areas, the use of buses to transport campers to and from the camp results in situations where cars must pull onto dirt areas on the side of the road, or back up to find a place to allow the bus to safely pass. While there is no record of accidents involving camp buses and automobiles on Forest Drive, operational and safety concerns exist.	
CEQA Significance:	Less than significant with mitigation incorporated
NEPA Significance:	Less than significant with mitigation incorporated
Mitigation: Manage Bus Traffic on Forest Drive Buses entering and leaving Camp Wawona would be accompanied by a pilot car that would precede each bus using Forest Drive. The car would be in contact with the bus by radio, would inform the bus driver of the status of opposing traffic, and would inform approaching motorists of a following bus and direct them to a safe location to wait until the bus passes. Pave Existing Pull-outs Along Forest Drive Paved pull-outs would be constructed at locations where informal pullouts exist in proximity to areas of limited sight distance. Paving existing dirt or graveled pull-outs that are currently used by motorists would help mitigate for the bus/automobile interactions. Creation of expanded or new pull-outs would not be feasible,	

Table ES-1
Summary of Project Impacts and Mitigation

because elimination of large trees, excavation of side slopes, or realignment of the road would be needed. These more intrusive measures are not considered feasible.	
Residual Impact:	Less-than-significant
Impact 5.9-2: Impacts to Intersection Levels of Service. The redevelopment of Camp Wawona would increase the number of visitors using the camp, primarily during the off-peak period (i.e., from late summer to late spring). This additional use would increase the number of vehicle trips on Forest Drive, but would not exceed the existing Level of Service (LOS) B standard for the Forest Drive/Wawona Road intersection. CEQA Significance: Less than significant NEPA Significance: Less than significant	
Mitigation:	None
Residual Impact:	Less-than-significant
Impact. 5.9-3: Impacts to Non-Automotive Circulation. The implementation of the proposed action would incrementally increase demand for the area's non-automotive transportation facilities.	
Mitigation: Manage Bus Traffic on Forest Drive Buses entering and leaving Camp Wawona would be accompanied by a pilot car that would precede each bus using Forest Drive. The car would be in contact with the bus by radio, would inform the bus driver of the status of opposing traffic, and would inform approaching motorists of a following bus and direct them to a safe location to wait until the bus passes. Pave Existing Pull-outs Along Forest Drive Paved pull-outs would be constructed at locations where informal pullouts exist in proximity to areas of limited sight distance. Paving existing dirt or graveled pull-outs that are currently used by motorists would help mitigate for the bus/automobile interactions. Creation of expanded or new pull-outs would not be feasible, because elimination of large trees, excavation of side slopes, or realignment of the road would be needed. These more intrusive measures are not considered feasible.	
Residual Impact:	Less-than-significant

Table ES-1
Summary of Project Impacts and Mitigation

PUBLIC UTILITIES AND SERVICES	
Impact 5.10-1: Increased Demand for Law Enforcement and Fire Protection Services. Redevelopment of Camp Wawona would result in an increase in camp usage during off-peak periods (i.e., in times of the year before and after the 8-week summer camp period). This increase is not expected to require additional demand on law enforcement staff from the National Park Service or Mariposa County because the camp is managed by onsite professional staff and camp counselors. The additional use could increase the risk of fires starting within Camp Wawona, or onto undeveloped lands adjacent to the camp. Camp Wawona maintains fire suppression equipment and has an adequate water supply to respond to accidental fires. Yosemite National Park, with a mutual aid agreement with the California Department of Forestry and Fire Protection, has primary responsibility for response to wildland fires in the Wawona area. The expected increased use of Camp Wawona during off-peak periods is not expected to substantially increase the fire risk above existing conditions, and redevelopment of the camp would include compliance with the Uniform Building Code and fire preparedness and prevention codes and standards.	
CEQA Significance:	Less than significant
NEPA Significance:	N/A (CEQA-only consideration)
Mitigation: None	
Residual Impact: Less-than-significant	
Impact 5.10-2: Need for New Stormwater Drainage Facilities. Redevelopment of Camp Wawona would involve the construction on new stormwater detention and retention facilities (see Impact 5.6-1). The environmental consequences associated with the construction of these facilities are considered within the relevant resource areas under the proposed action.	
CEQA Significance:	Less than significant
NEPA Significance:	N/A (CEQA-only consideration)
Mitigation: None	
Residual Impact: Less-than-significant	
HAZARDS AND HAZARDOUS MATERIALS	
Impact 5.11-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Camp Wawona uses several hazardous materials (e.g., chlorine, diesel fuel) during routine operations. A	

Table ES-1
Summary of Project Impacts and Mitigation

Hazardous Materials Management Plan for the camp is in place, and is monitored. No hazardous materials violations have been recorded. Compliance with the management plan, and proper handling and disposal of hazardous materials would continue under the proposed action. Project construction and demolition activities would involve hazardous materials. These construction-related materials would be labeled, handled, and disposed of in accordance with applicable local, state, and federal laws. CEQA Significance: Less than significant NEPA Significance: N/A (CEQA-only consideration)	
Mitigation: None	
Residual Impact: Less-than-significant	
Impact 5.11-2: Release of materials such as asbestos or lead during demolition. Redevelopment of Camp Wawona would involve the demolition and removal of existing structures that may contain asbestos or lead-based paint. Release of these materials into the environment could result in significant health hazards to construction workers and the public. The nature and extent of these potential hazards has not been identified. Compliance with the regulations issued by the Occupational Health and Safety Administration, and with applicable hazardous materials laws for the handling and disposal of these materials, would be required. CEQA Significance: Less than significant with mitigation incorporated NEPA Significance: Less than significant with mitigation incorporated	
Mitigation: Hazardous Materials Investigation. A thorough investigation would be made of each structure on the project site scheduled for demolition during implementation of the project. The study would focus on locating sources of asbestos, lead-based paint, and other hazardous building materials that could exist in the older camp structures. If these substances are located in a building scheduled for demolition, removal would be conducted according to OSHA regulations.	
Residual Impact: Less-than-significant	
Impact 5.11-3: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. Redevelopment of Camp Wawona would involve use of hazardous materials such as fuels, lubricants, compressed gases, cleaning fluids, sealants, and other construction materials that contain hazardous chemicals. These construction-related materials would be labeled, handled, and disposed of in accordance with applicable local, state, and federal laws. CEQA Significance: Less than significant NEPA Significance: Less than significant	

Table ES-1
Summary of Project Impacts and Mitigation

Mitigation: None	
Residual Impact: Less-than-significant	
Impact 5.11-4: Expose people or structures to a significant risk of loss, injury or death involving wildland fires. Camp Wawona is located in a rural, forested area within Yosemite National Park. Human activities such as brush clearing, use of camp fires, automobiles, and cigarettes often result in the ignition of wildland fires. Intentional actions (i.e., arson) are also common causes of wildland fires and associated damage to natural resources and property. The nature of use at Camp Wawona, involving numerous transient occupants, could result in a wildland fire that would spread inside or outside of the camp. Camp Wawona could also be affected by a wildland fire started elsewhere. These conditions currently exist, but would be increased by the expected additional use of the camp in off-peak periods (i.e., late summer through late spring). CEQA Significance: Less than significant with mitigation incorporated NEPA Significance: Less than significant with mitigation incorporated	
Mitigation: Reduction of Wildfire Risk. To reduce the risk that use of Camp Wawona would result in a wildland fire, the following practices would be implemented: a) Ensure that private roads and driveways are sufficiently wide to allow for emergency vehicles access; b) Maintain the existing circulation system using roads (e.g., Bills Hill Road) connecting through other parcels to regional roadways for emergency access; c) Maintain sufficient onsite emergency water supply and firefighting equipment to control and contain fires that could start on the camp property; d) Maintain clear ground around any areas where open fires would be used, and maintain fire suppression materials (e.g., shovels, buckets of water) in those locations; e) Install signs that provide easy identification of roads, driveways, and emergency escape routes; f) Employ design specifications for new buildings to reduce the risk of damage during wildland fires, including use of brick, stucco, or thicker wood siding materials for exterior walls, the enclosure of the underside of balconies and decks with fire resistive materials, roofing with Class A fire resistive or noncombustible material, eaves that are boxed or enclosed with fire resistive materials, and limiting the number and size of windows facing large areas of flammable vegetation. g) Maintain fuel breaks between structures and vegetation. Width of fuel breaks shall be determined by CDF. h) Maintain a minimum of 15 feet between heating oil tanks and structures.	
Residual Impact: Less-than-significant	

1 INTRODUCTION

The County of Mariposa (County) and the National Park Service (NPS) have prepared this document to analyze the potential environmental impacts associated with a proposed land exchange and the redevelopment of Camp Wawona. Camp Wawona is an existing institutional camp that is owned and operated by the Central California Conference of Seventh-day Adventists Church (Seventh-day Adventists). Camp Wawona is located in the Town of Wawona, which includes private lands that are within the boundaries of Yosemite National Park. Land use decisions concerning private property within the Town of Wawona are administered through a Memorandum of Understanding (MOU) executed between the County and the National Park Service. The MOU (Agreement Number MU 8800-7-8005) is implemented through the Wawona Town Planning Area Specific Plan (WTPASP), and gives concurrent jurisdiction to the Board of Supervisors and the Superintendent of Yosemite National Park.

The County of Mariposa is the state lead agency for the Camp Wawona Redevelopment Project and Proposed Land Exchange, and as such is responsible for compliance with the California Environmental Quality Act (CEQA). The National Park Service is the federal lead agency for this project, and is responsible for compliance with the National Environmental Policy Act (NEPA). In accordance with the MOU and a Memorandum of Agreement (MOA) executed between the National Park Service and the County for this project (Agreement Number G8800030006), a joint Environmental Impact Report (EIR) and Environmental Assessment (EA) will be prepared through cooperation between the two lead agencies.

Camp Wawona is located on private property that is adjacent to lands that are owned and managed by the National Park Service. The camp is situated near the eastern end of Forest Drive, about two miles east of the intersection with Wawona Road. Camp Wawona primarily accommodates the needs of the constituency of the Seventh-day Adventists, but occasionally is used by outside groups through agreement with the Seventh-day Adventists. The Seventh-day Adventists have owned and operated Camp Wawona for more than 70 years, and are interested in redeveloping the Camp Wawona facilities to better serve their constituency.

In 1987, the County and Yosemite National Park adopted and approved the WTPASP. In the WTPASP, the Seventh-day Adventists property is designated as "Mountain Residential." One of the conditional uses allowed in the Mountain Residential zone is "church." However, it has been determined that this designation does not apply to the ongoing activities at and uses of Camp Wawona. As a result, Camp Wawona is a legally existing, nonconforming use relative to the WTPASP. Consequently, the County and the National Park Service (as required by the MOU) cannot approve building permits or discretionary approvals for development at Camp Wawona unless the nonconforming status is resolved.

In addition to the land use plan inconsistency and the related inability of the Seventh-day Adventists to replace or expand the existing camp facilities, some existing buildings and roads at Camp Wawona encroach onto public lands managed by Yosemite National Park. Also, some

of the developed portions of Camp Wawona are less than 100 feet from the Yosemite Wilderness Area boundary, which was established by the California Wilderness Act of 1984.

The EIR, of which this is the Draft (DEIR), has been prepared to describe the proposed action, alternatives to the proposed action, and the environmental consequences or “impacts” that would occur upon implementation. There is no equivalent “Draft Environmental Assessment” under NEPA, but the DEIR contains both County-needed CEQA information and National Park Service-needed NEPA information. The EA required by NEPA will be prepared and circulated for comment by the National Park Service as a document consolidated into the Final EIR.

1.1 PURPOSE OF AND NEED FOR THE PROJECT

The three primary purposes of the proposed action are to:

- (1) Improve the buffer between Camp Wawona and the Yosemite Wilderness Area.
- (2) Resolve the land use plan inconsistency of the legally existing camp through an amendment to the County of Mariposa General Plan and the WTPASP creating a conditional use designation for “institutional” or “religious organization campground” in the Mountain Residential zoning district, and issue a Conditional Use Permit to approve the camp facilities and operations.
- (3) Allow for redevelopment of the camp to better serve children’s camping needs and the spiritual needs of the adult church community.

The first of these goals is intended to provide a more effective buffer between the developed camp facilities and operations and the designated Yosemite Wilderness Area established under the California Wilderness Act of 1984. The Yosemite Wilderness Area is “an enduring resource of wilderness ... to be managed for the use and enjoyment of wilderness values without impairment of the wilderness resource” (NPS 2001a). In addition to managing the natural wilderness values, such as plant and wildlife habitat and free-flowing streams, wilderness management acknowledges the public values of providing and managing “recreational, scenic, scientific, educational, conservation, and historical uses” (NPS 1989). The minimum desired buffer between a wilderness area and adjacent public or private developments is established as 100 feet from developments and one-lane roads, while a 200-foot-wide buffer is the desired minimum standard to separate wilderness areas from two-lane roads. The proposed land exchange is intended to help accomplish the goal of improving the Yosemite Wilderness Area buffer.

The second goal of the proposed action is to modify necessary planning policies and designations, issue a Conditional Use Permit, and amend the WTPASP as necessary to resolve the land use plan inconsistency and allow for redevelopment of Camp Wawona. Reconciliation of land use plan map inconsistencies would also involve parcel boundary and lot line

adjustments between the Seventh-day Adventists and the National Park Service properties as part of the proposed land exchange.

The third purpose for the proposed action is to allow for the planned and directed redevelopment of Camp Wawona to replace or upgrade facilities that are not in good condition, facilitate use of the camp by other organizations, and better serve the needs of the children and adults who visit Camp Wawona. While most of the use of Camp Wawona is related to church groups, over the years the camp has also been used by other organizations that accommodate the needs of the physically challenged and developmentally disabled children. Educational organizations such as the Yosemite Institute and institutional groups such as the Boy Scouts of America have used the camp for group activities.

The goal of the proposed redevelopment project is to reconstruct the camp to better serve both children's camping needs and the spiritual needs of the adult church community, particularly during the fall, winter, and spring. This goal is to be achieved without changing the basic nature of the use of Camp Wawona, in a manner that is consistent with the characteristics and values of the Wawona area, and without creating a negative impact on local residents or members of the public who visit this portion of Yosemite National Park.

1.2 REGULATORY AUTHORITY AND JURISDICTION

The Camp Wawona Redevelopment Project and Proposed Land Exchange involves decisions by both the County and National Park Service. Consequently, both state and federal laws, regulations, and policies apply. It is important to recognize that the actual development permits and all subsequent permits related to the proposed action must be approved by both the County and the National Park Service.

The County must comply with CEQA, Public Resources Code (PRC) '21000 et seq., and the State CEQA Guidelines (Title 14 California Code of Regulations [CCR] '15000 et seq.). The County must also consider the consistency of the proposed action with the policies and elements of the County General Plan and the WTPASP. These two planning documents are being updated at this time.

The National Park Service must comply with requirements of NEPA (Public Law [PL] 91-190, 42 United States Code [USC] §4341 et seq.); the National Park Service guidelines for implementing NEPA, which are provided in the DO-12 Handbook and Director's Order (NPS 2001b); the Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] §1500 et seq.); and other laws, regulations, guidelines, and plans that govern land use within Yosemite National Park. A list of applicable laws, regulations, and policies is provided in Appendix A.

The proposed exchange of land between the National Park Service and the Seventh-day Adventists, a private party, is authorized by the April 9, 1912 "Act to Authorize the Secretary of the Interior to Secure for the United States Title to Patented Lands in the Yosemite National Park and for Other Purposes" (16 USC §51) (37 Statute 80). The land exchange must meet an

“equal value” standard to ensure that the public interests are met. Equal value is based on formal land and property appraisals that consider factors such as the value of the base land, value of timber, and the value of any improvements to the land.

The most critical governing document relevant to the proposed action is the National Park Service Organic Act, which includes a prohibition on the impairment of park resources and values. Each of these considerations is summarized below.

1.2.1 NATIONAL PARK SERVICE ORGANIC ACT

The National Park Service Organic Act of 1916 (Organic Act) established the National Park Service in order to “promote and regulate the use of parks” and defined the purpose of the national parks as “to conserve the scenery and natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” The Organic Act provides overall legal guidance for the management of Yosemite National Park, and all decisions by the National Park Service must consider whether the proposed action is consistent with this guiding act. Yosemite National Park is more specifically guided by the enabling legislation that founded the Park, applicable federal laws and regulations, and National Park Service management policies. The unique management situation relative to Section 35, and the MOU with the County of Mariposa, as described above, has a direct bearing on the day-to-day management and administration of this area.

1.2.2 PROHIBITION ON IMPAIRMENT OF PARK RESOURCES AND VALUES

The prohibition on the impairment of park resources and values is a cornerstone of the Organic Act that establishes the primary responsibility of the National Park Service and ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them. The National Park Service Management Policies (NPS 2001a) provides specific guidance on assessing the impairment of park resources and values, and impacts to these values must meet the statutory requirement that park resources and values be left unimpaired, unless a particular law directly and specifically provides otherwise. Impacts in National Parks must be related to those actions necessary for visitor enjoyment and use, administrative requirements, and specific congressionally authorized purposes.

1.3 PLANNING CONTEXT

Both local and federal planning documents are relevant to the proposed action, as summarized below.

1.3.1 COUNTY OF MARIPOSA

The Mariposa County General Plan provides goals, policies, and implementation measures to address both mandatory and optional planning elements. The seven mandatory plan elements (circulation, conservation, housing, land use, noise, open space, and safety) are all required by

state law. Optional elements, which can be developed by local jurisdictions in recognition of locally important issues, include topics such as agriculture, arts and culture, economic development, fiscal impacts, historic and cultural resources, local recreation, and regional tourism. Each of these optional items is addressed in the General Plan Update currently being developed by the County.

The County also prepares area plans for certain rural communities. One of these areas is Wawona. The town plan for Wawona is also being updated, where the WTPASP currently directs land use decisions. When it is updated and adopted, the Wawona Town Plan will provide more precise direction for planning and zoning issues in Wawona.

Because the updated County and town plans have not yet been approved, the consistency analysis described in this document focuses on the currently adopted plans: the 1981 General Plan and the 1987 WTPASP. Where significant changes are being considered in the plan updates, a discussion of the consistency of the proposed action relative to those proposed changes is presented. For example, the 1981 General Plan provides little specific guidance relative to visual and aesthetic resources. The General Plan Update currently under consideration contains several policies that are relevant to aesthetic resources.

1.3.2 YOSEMITE NATIONAL PARK

Planning in Yosemite National Park takes two different forms: general management planning and implementation planning. General management plans are required for all national parks by the National Park and Recreation Act of 1978.

GENERAL MANAGEMENT PLANS

The purpose of a general management plan is to set a “clearly defined direction for resource preservation and visitor use” (NPS 1998), and to provide general directions and policies to guide planning and management in the park. The General Management Plan (NPS 1980) is the overall planning document for Yosemite National Park.

The Merced Wild and Scenic River Comprehensive Management Plan (Merced River Plan) (NPS 2001c) is a planning document with weight equal to that of the General Management Plan. In designating the Merced River (including the South Fork through Wawona) as a Wild and Scenic River, Congress authorized the National Park Service to prepare its management plan for the river by making appropriate revisions to the park’s General Management Plan (16 USC §1274[a][62]). The Merced River Plan provides a framework for decision-making on future management actions within the Merced Wild and Scenic River corridor. It applies seven management elements: boundaries, classifications, Outstandingly Remarkable Values, the Section 7 determination process, management zoning, the River Protection Overlay, and the Visitor Experience and Resource Protection framework. In Wawona, the river is designated as Recreational under the Wild and Scenic River Act.

IMPLEMENTATION PLANS

Implementation plans, which tier off of the General Management Plan and Merced River Plan, focus on “how to implement an activity or project needed to achieve a long-term goal” (NPS 1998). Implementation plans may direct specific projects as well as ongoing management activities or programs—and typically provide a more extensive level of detail and analysis.

The Yosemite Valley Plan outlines specific actions that would enable the National Park Service to meet the broad goals stated in the General Management Plan for Yosemite Valley and modifies other provisions based on new and updated information. Because of changes proposed by the Yosemite Valley Plan to the General Management Plan that were guided by new information developed since 1980, the National Park Service prepared a final environmental impact statement in 2000 and issued a Record of Decision for the Yosemite Valley Plan to amend the General Management Plan for Yosemite National Park. Because the Yosemite Valley Plan includes an alternative that could potentially relocate some employee housing from Yosemite Valley to the Wawona area, this plan is relevant to the proposed action.

MANAGEMENT GOALS

Management goals identify long-range direction for Yosemite National Park. Any proposed action must carefully balance multiple goals and constraints, especially in a park as large and complex as Yosemite National Park. This chapter presents the goals from Yosemite’s General Management Plan, the Merced River Plan, and the Yosemite Valley Plan.

General Management Plan Goals

The General Management Plan for Yosemite National Park sets forth five broad goals for management of the park:

- ▶ reclaim priceless natural beauty,
- ▶ allow natural processes to prevail,
- ▶ promote visitor understanding and enjoyment,
- ▶ markedly reduce traffic congestion, and
- ▶ reduce crowding.

Merced River Plan Goals

While the Merced River Plan works in concert with the goals set forth in the General Management Plan, it also outlines an additional set of goals for management of the Merced Wild and Scenic River. The main stem and south fork of the Merced River were designated by Congress in 1987 for protection under the Wild and Scenic Rivers Act. The National Park Service developed the five goals of the Merced River Plan to further the policy established by the Wild and Scenic Rivers Act, namely to preserve designated rivers in their free-flowing condition and to protect and enhance a river’s Outstandingly Remarkable Values. The Merced River Plan goals are to:

- ▶ protect and enhance river-related natural resources,
- ▶ protect and restore natural hydrological and geomorphic processes,
- ▶ protect and enhance river-related cultural resources,
- ▶ provide diverse river-related recreational and educational experiences, and
- ▶ provide appropriate land uses.

The Merced River Plan applies seven management elements that prescribe desired future conditions, typical visitor activities and experiences, and park facilities and management activities allowed in the river corridor. The management elements as they relate to the proposed action are discussed in Chapter 6, Merced Wild and Scenic River.

Yosemite Valley Plan Goals

The Yosemite Valley Plan carries forward the goals of the General Management Plan. In addition, the Yosemite Valley Plan identifies four specific purposes of the plan, which were listed previously in this chapter. The Yosemite Valley Plan also identifies four primary criteria for accomplishing the broad goals of the 1980 General Management Plan in Yosemite Valley and the specific purposes of the Yosemite Valley Plan. These criteria are:

- ▶ protect and enhance natural and cultural resources,
- ▶ enhance visitor experience,
- ▶ provide effective operations, and
- ▶ provide appropriate land uses.

1.4 PROJECT REVIEWS, DECISIONS, AND PHASING

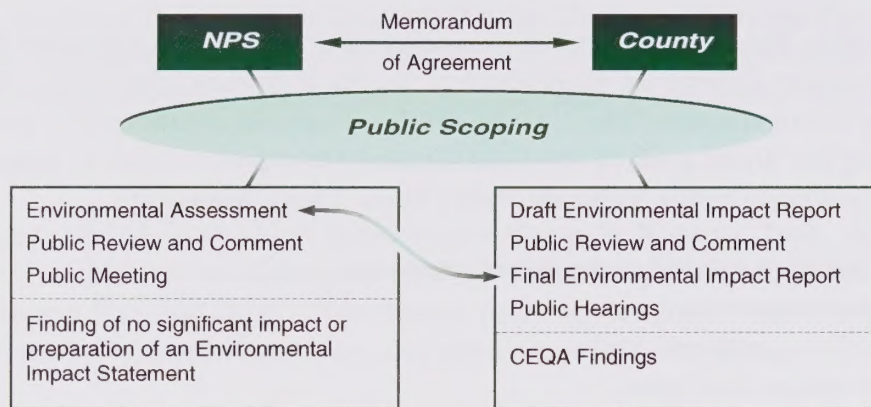
The Camp Wawona Redevelopment Project and Proposed Land Exchange involves reviews and decisions that must be made by the National Park Service and the County of Mariposa, and steps that must be taken by the Seventh-day Adventists. As shown in Figure 1-1, the National Park Service must comply with NEPA, approve appropriate amendments to the Wawona Town Plan, and take actions necessary for the formal exchange of land with the Seventh-day Adventists, if the proposed action is approved. The County of Mariposa is responsible for compliance with CEQA, would approve appropriate amendments to the Wawona Town Plan and County General Plan, and issue a Conditional Use Permit if the proposed action is approved. The Seventh-day Adventists would be responsible for project implementation, including implementation of a restoration plan and adherence to permit conditions, land exchange agreements, and other regulatory requirements.

As depicted in Figure 1-1, the proposed action includes a series of steps during the environmental review process, culminating in decisions under NEPA and CEQA by the National Park Service and County of Mariposa, respectively. These decisions are expected in the spring of 2004. If the proposed action is approved, a number of tasks must be completed following the environmental review process. For example, the National Park Service would initiate steps needed in order to formally exchange public land with the Seventh-day Adventists. Among these tasks would be compliance with Section 106 of the National Historic

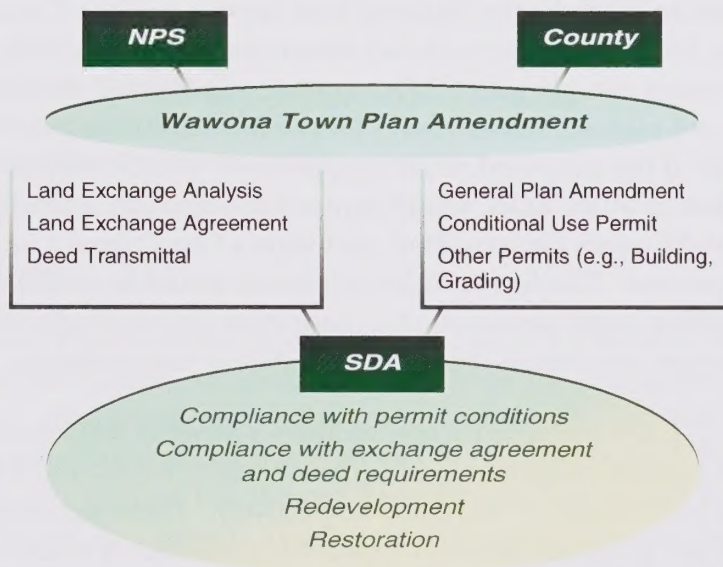
Responsible Parties

National Park Service (NPS)	County of Mariposa (county)	Seventh-Day Adventists
▮ National Environmental Policy Act ▮ Wawona Town Plan ▮ Land Exchange	▮ California Environmental Quality Act ▮ Wawona Town Plan ▮ County General Plan ▮ Use Permit	▮ Project Application ▮ Project Implementation

Environmental Review Process



Implementation Process



Source: EDAW 2003

Preservation Act and consultation with the U.S. Fish and Wildlife Service under the Endangered Species Act. The National Park Service would need to conduct a land exchange analysis to ensure that the proposed exchange is in the public interest and meets regulatory requirements, notify appropriate parties, execute a land exchange agreement, and issue a deed transmittal. The County of Mariposa would have lead responsibility for preparing amendments to the Wawona Town Plan and County General Plan, issuance of a conditional use permit, and issuing other permits (e.g., grading) needed for the redevelopment of Camp Wawona to proceed.

It is expected that a Memorandum of Understanding will be developed between the County of Mariposa, National Park Service, and Seventh-day Adventists to clarify the roles, responsibilities, and timing of actions to be taken following the environmental review process that is currently underway.

1.5 TERMINOLOGY, ORGANIZATION, AND SCOPE OF THE EIR

This document addresses both state and federal environmental laws. As appropriate, issues that are uniquely applicable to CEQA, NEPA, and National Park Service policies (e.g., DO-12 Handbook and Director's Order) are identified within the applicable sections of the document. In accordance with the MOA signed by the National Park Service and the County, terminology that is consistent with the standards of NEPA is used, with acknowledgement that these terms differ from terms used commonly under CEQA. For example, the term "proposed action" is used in this document in a manner equivalent to the term "proposed project" that is commonly used in environmental documents prepared under CEQA. Similarly, "affected environment," a common NEPA term is used in this document. "Affected environment" is equivalent to the standard CEQA term of "environmental setting." Finally, "environmental consequences" is the term used in this document in place of the more common CEQA term of "environmental impacts."

The term "project site" is used to refer to the 30.45 acres of land currently occupied by Camp Wawona, plus the 18 acres of land owned by the National Park Service that are being considered for exchange to the Seventh-day Adventists. The "National Park Service exchange parcel" encompasses the 18 acres of public land on the southern side of Forest Drive, adjacent to the northwestern corner of Camp Wawona. The "Seventh-day Adventists exchange parcel" consists of 15.6 acres of privately owned land at the southern end of the existing camp, abutting National Park Service land and the Yosemite Wilderness Area. Smaller parcels of public and private land are considered for exchange under the "Reduced" and "Minimal" land exchange alternatives described herein. These areas are depicted on maps provided in chapters 2 and 3.

A description of the proposed action and alternatives for the redevelopment of Camp Wawona and the proposed land exchange, and the evaluation of potential impacts of these alternatives, are integrated into this document. The contents of this document are as follows:

Chapter 1: Introduction – This chapter includes a discussion of the project’s purpose and need, the local and federal regulatory authorities and jurisdictions, and the local and National Park Service planning context.

Chapter 2: Description of the Proposed Action – This chapter describes the proposed action, including the proposed camp redevelopment, proposed County General Plan and WTPASP changes, and the proposed land exchange.

Chapter 3: Alternatives to the Proposed Action – This chapter describes the No Project Alternative and action alternatives under consideration by the National Park Service and the County, including alternatives that were considered but not fully analyzed.

Chapter 4: Affected Environment – This chapter provides an overview of the affected environment, describing the existing condition of natural, cultural, and social resources in the project area.

Chapter 5: Environmental Consequences – This chapter presents the analysis of the potential environmental impacts of the proposed action, including cumulative impacts, and an assessment of the impacts associated with each alternative that was analyzed in detail.

Chapter 6: Merced Wild and Scenic River – This chapter analyzes the consistency of the proposed action with the management elements of the Merced River Plan, including the Resource Protection Overlay zone that parallels the South Fork Merced River through Wawona.

Chapter 7: Growth-Inducing Characteristics – In compliance with CEQA, this chapter describes the potential growth-inducing aspects of the proposed action. In addition, the analysis of cumulative impacts is summarized, taking into consideration the impacts of the proposed action in combination with the impacts from other projects under consideration in the project vicinity.

Chapter 8: Consultation and Coordination – This chapter summarizes the process of interaction with the public, agencies, and organizations that was used during the preparation of this document.

Chapter 9: List of Preparers and Reviewers – This chapter lists the names and qualifications of the persons who are primarily responsible for preparing and reviewing the document.

Chapter 10: Glossary and Acronyms – This chapter defines the technical terms and acronyms used in this document.

Chapter 11: Bibliography – This chapter lists the references cited in this document.

In addition to the above chapters, the following appendices to this document provide additional supporting data and information.

Appendix A – Regulations and Policies

Appendix B – Agency Correspondence

Appendix C – List of Plant Species Observed

Appendix D – Traffic Report

The majority of land ownership in Section 22 consists of privately owned agricultural property. Approximately 200 acres, or 40% of the total land area in Section 22, are privately held. The remaining 300 acres, or approximately 60% of the total, are publicly held, managed by the State of California (Figure 2-3).

In 1987, the National Park Service and the County of Mariposa entered an MOU to provide for joint jurisdiction over the privately held lands in the Town of Wawona, which are within the boundaries of Yosemite National Park. The agreement allowed Yosemite National Park to acquire the "fee-simple jurisdiction" over private lands in the Town to the State of California. The working arrangement is managed by the County of Mariposa, a political subdivision of the state. Subsequently, formal agreements have been established between the County and the National Park Service relative to Section 22.

2.2 SITE LOCATION AND DESCRIPTION

Camp Wawona is situated on 1000 acres of privately held land (Mariposa County Parcel 1000-1000) located in the southern corner of Section 22 (Figure 2-4). The land, owned by the Smith-Hart Foundation, contains the former camp development and is subject to one of the "young projects" or "Section 22 Initiative projects." Most of the surrounding riparian wetlands is owned by National Park Service lands. Two private parcels, owned by the William F. and Louise E. LeBaron Trust, are adjacent to the western parcel boundary. The Section 22 Initiative requires transfer of Camp Wawona to a small extension of land (approximately 100 feet by 100 feet) located in the south of Forest Grove and the South Fork Merced River. The parcel size is within the boundary of the Merced Wild and Scenic River, which extends 100 miles from the voluntary high water mark. As noted in the Merced Wild and Scenic River Plan, the project will be subject to management under 36-Park Operations and Administration, as described in Chapter 4 of the document. Camp Wawona is not within the Riverside Recreation Overlay (RRO) established for the Merced Wild and Scenic River. The

2 DESCRIPTION OF THE PROPOSED ACTION

2.1 REGIONAL LOCATION

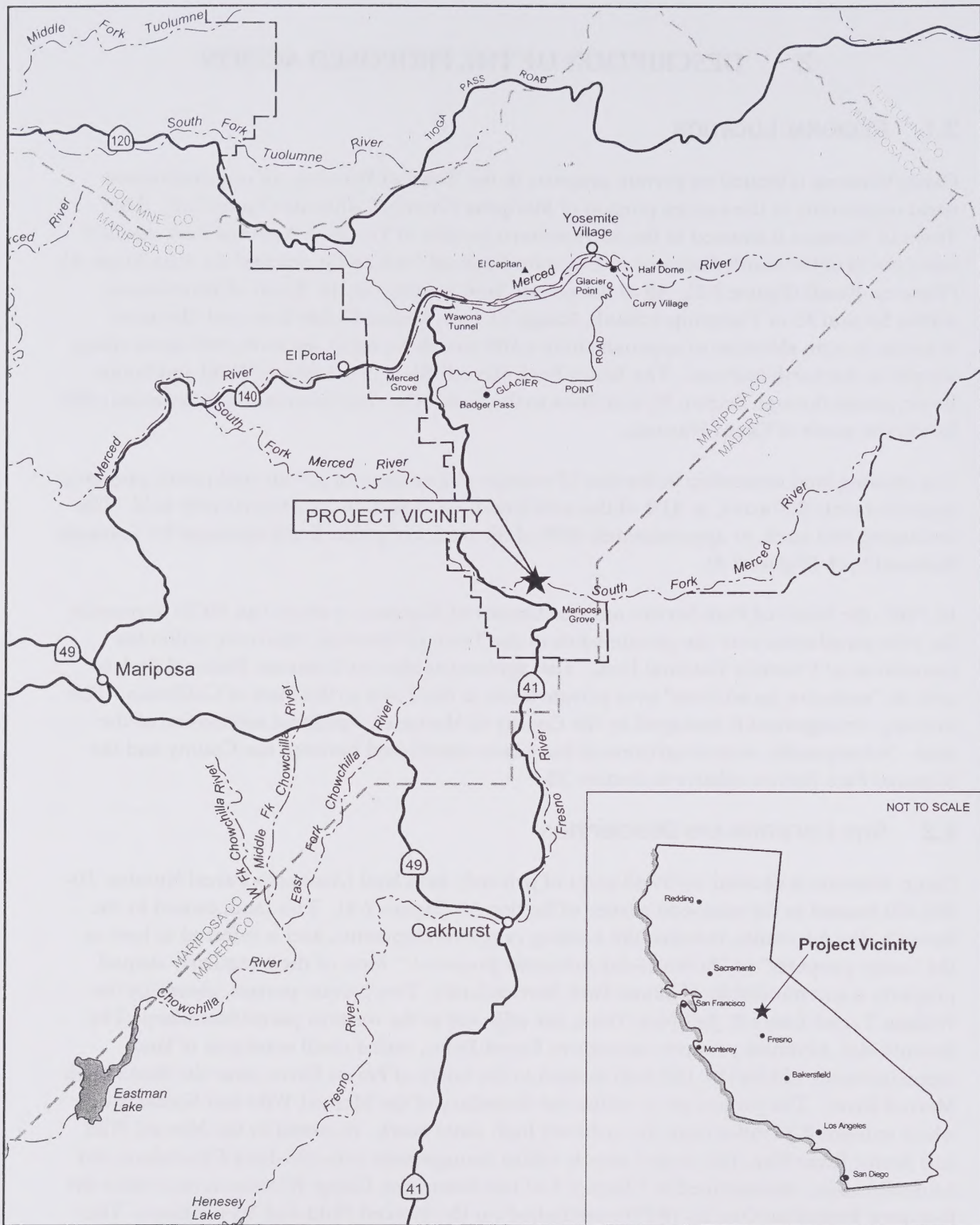
Camp Wawona is located on private property in the Town of Wawona, an unincorporated rural community in the eastern portion of Mariposa County, California (Figure 2-1). The Town of Wawona is situated in the southwestern portion of Yosemite National Park, about 6 miles north of the South Entrance to Yosemite National Park and is reached via State Route 41 (Wawona Road) (Figure 2-2). All of the private land holdings in the Town of Wawona are within Section 35 of Township 4 South, Range 21 East, Mount Diablo Base and Meridian. Wawona is at an elevation of approximately 4,100 feet above mean sea level, with lands rising steeply to the north and east. The South Fork Merced River, a designated Wild and Scenic River, passes through Section 35 as it flows to the west. The river is located approximately 400 feet to the north of Camp Wawona.

The existing land ownership in Section 35 consists of a mixture of private and public property. Approximately 200 acres, or 31% of the total land area in Section 35, are privately held. The remaining 440 acres, or approximately 69% of the total, are public lands managed by Yosemite National Park (Figure 2-3).

In 1987, the National Park Service and the County of Mariposa executed an MOU to provide for joint jurisdiction over the private lands in the Town of Wawona, which are within the boundaries of Yosemite National Park. This agreement allowed Yosemite National Park to cede its “exclusive jurisdiction” over private lands in the Town to the State of California. This working arrangement is managed by the County of Mariposa, a political subdivision of the state. Subsequently, several agreements have been established between the County and the National Park Service relative to Section 35.

2.2 SITE LOCATION AND DESCRIPTION

Camp Wawona is situated on 30.45 acres of privately held land (Assessor’s Parcel Number 10-280-09) located in the southeast corner of Section 35 (Figure 2-4). This land, owned by the Seventh-day Adventists, contains the existing camp developments, and is referred to here as the “camp property” or “Seventh-day Adventist property.” Most of the irregularly shaped property is surrounded by National Park Service lands. Two private parcels, owned by the William T. and Laura E. Jacobsen Trust, are adjacent to the western parcel boundary. The Seventh-day Adventist property extends to Forest Drive, with a small extension of land (approximately 125 feet by 100 feet) located to the north of Forest Drive, near the South Fork Merced River. The project site is within the boundary of the Merced Wild and Scenic River, which extends 0.25 miles from the ordinary high water mark. As noted in the Merced Wild and Scenic River Plan, the project area is within management zone 3C–Park Operations and Administration. As described in Chapter 6 of this document, Camp Wawona is not within the Resource Protection Overlay (RPO) established for the Merced Wild and Scenic River. The

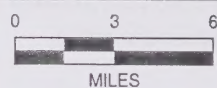


Source: California State Automobile Association, Yosemite 1999

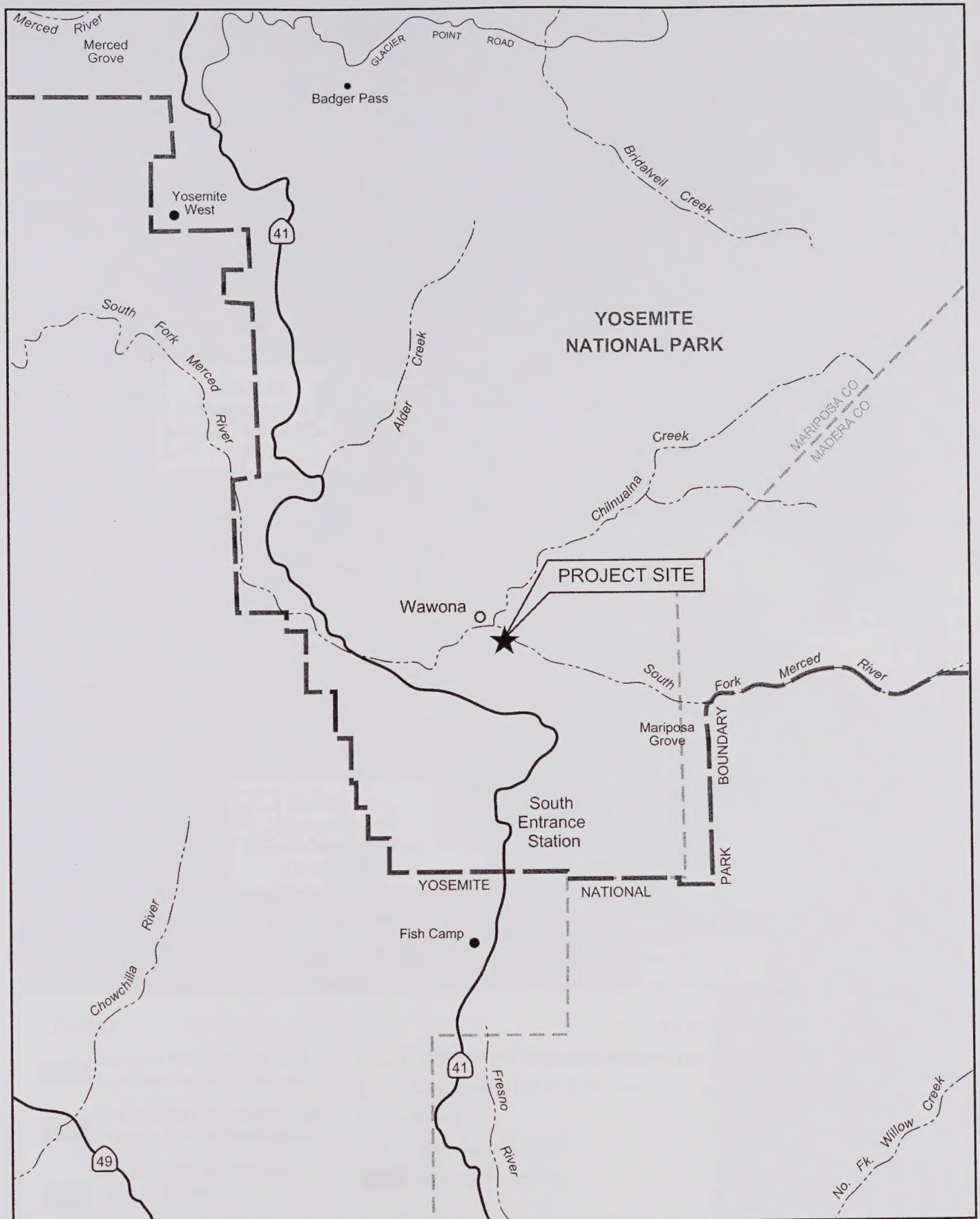
Project Vicinity Map

FIGURE 2-1

Camp Wawona Redevelopment and Land Exchange EIR
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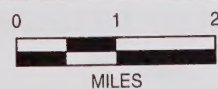


Source: California State Automobile Association, Yosemite 1999

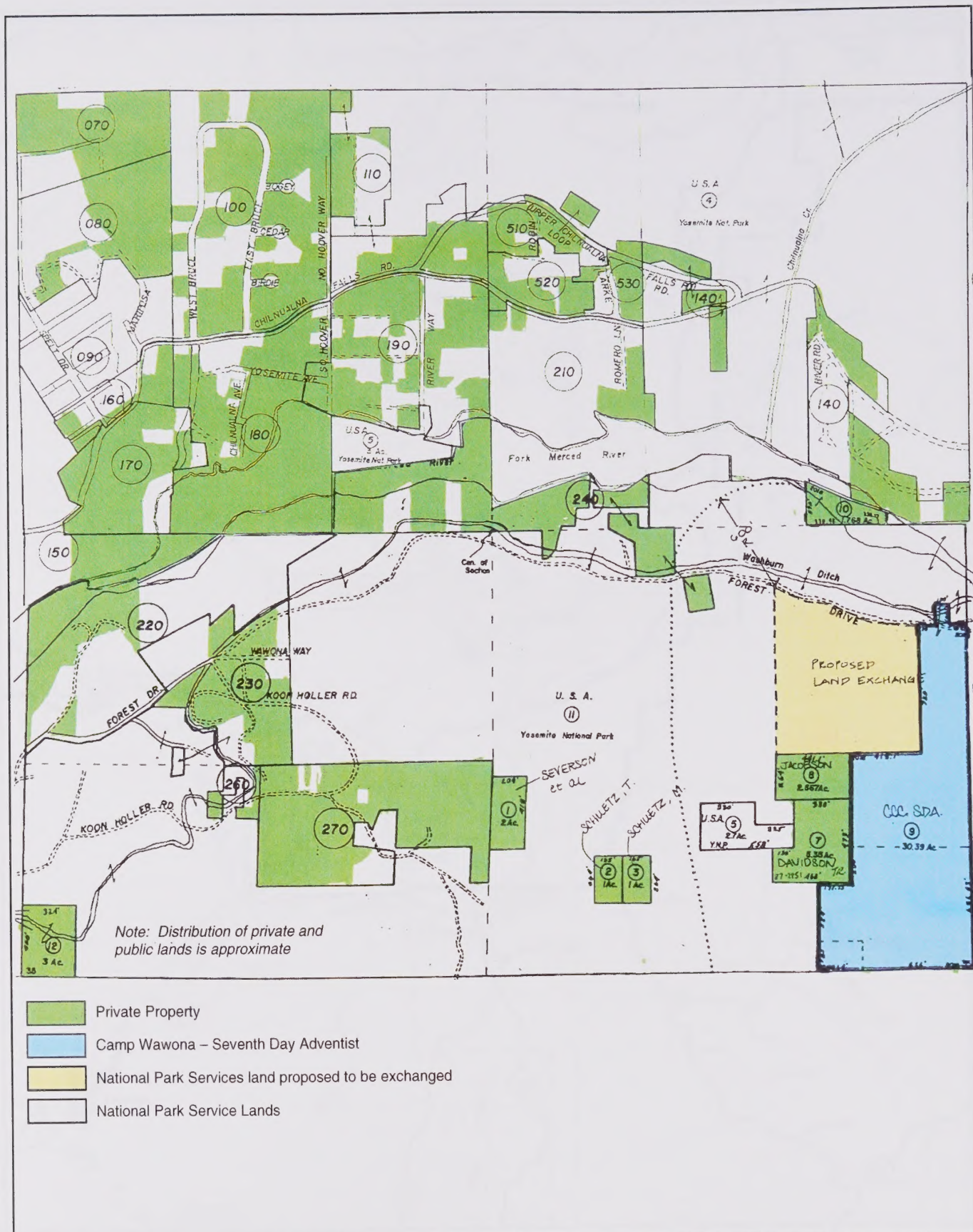
Project Location Map

FIGURE 2-2

Camp Wawona Redevelopment and Land Exchange EIR
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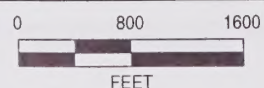
Source: County of Mariposa-Assessor's Office

Property Ownership Distribution Map

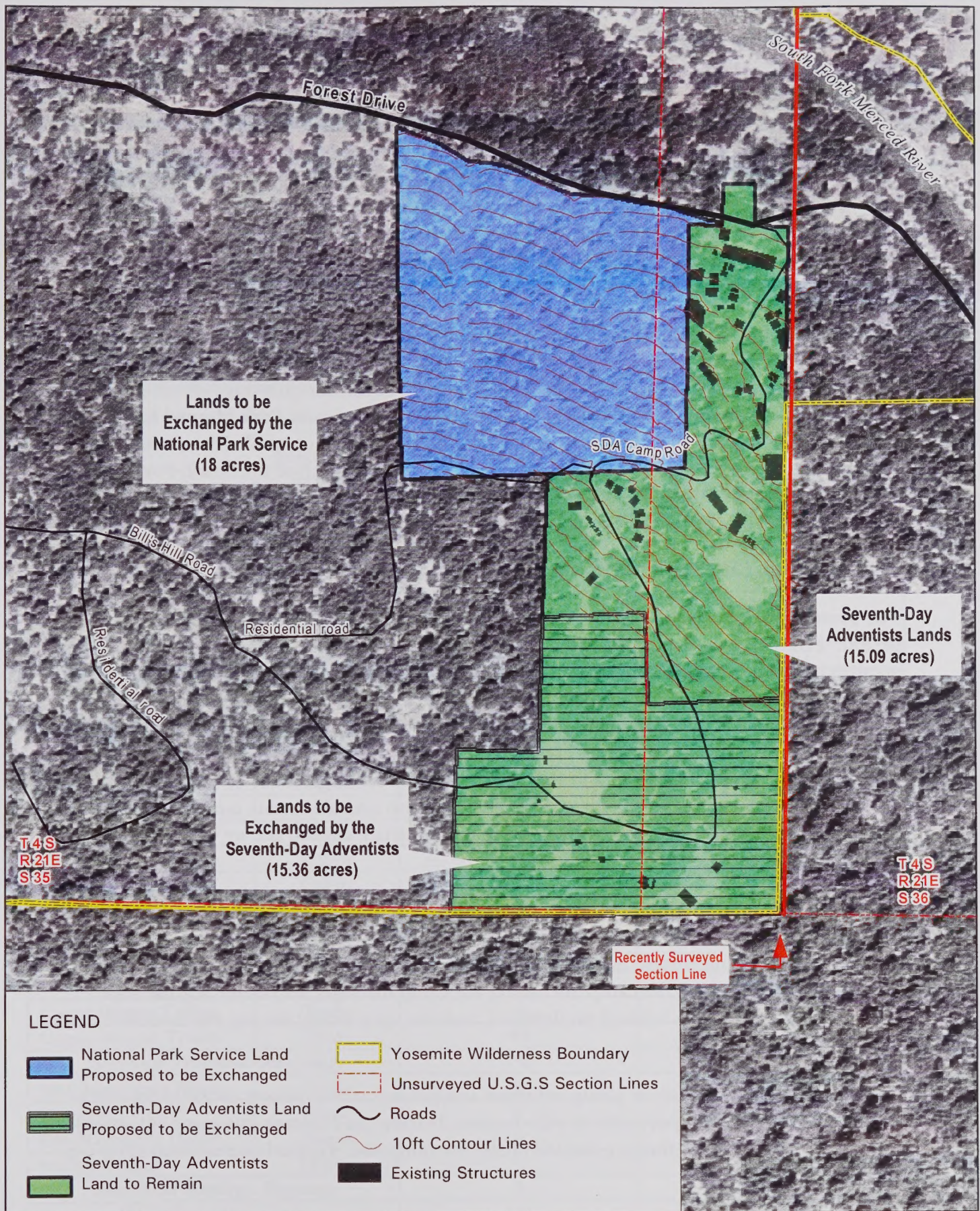
FIGURE 2-3

Camp Wawona Redevelopment and Land Exchange EIR

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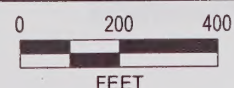


Source: Yosemite National Park 2000, U.S.G.S 1993

Area Map of the Proposed Action

Camp Wawona Redevelopment and Land Exchange EIR
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FIGURE 2-4



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RPO is an area subject to special management under the Merced River Plan, and encompasses the river channel itself, including an area 150 feet from the high-water mark.

The camp property is the most easterly of the private parcels along Forest Drive, a road with a minimum paved width of approximately 12 feet. The extensive public lands of Yosemite National Park and the Yosemite Wilderness Area are located adjacent to Camp Wawona on the south and east. Most of the Seventh-day Adventist property is covered by a dense stand of conifers and mixed hardwoods and is largely undeveloped, with some grading done for building or road construction.

The camp property is located on a moderately steep (generally 10% to 25%), north-facing, heavily wooded slope. Localized portions of the camp are less than 10% in slope, with some small areas with slopes in excess of 30%. The elevation of the Seventh-day Adventist property ranges from approximately 4,110 feet on the north, near the South Fork Merced River, to approximately 4,415 feet on the south, near the existing swimming pool. The portions of Camp Wawona used for lodging are approximately 400 feet south of the South Fork Merced River, and are approximately 50 feet from the southern edge of the 100-year floodplain, which is located on the north side of Forest Drive.

2.2.1 EXISTING CAMP OPERATIONS

The most intensive use of Camp Wawona occurs during the 8-week-long summer camp period. From approximately mid-June to mid-August each year, the summer camp program involves a group of up to 250 children and 80 volunteers who help coordinate and supervise various camp activities on the property. The 338 existing transient units, as well as the accommodations for the camp manager and other caretakers, are all occupied during this peak period. The current summer camp activities run on a weekly basis, from Sunday to Sunday, with one set of campers arriving and the previous group leaving via bus or private vehicle on the same day. Once the campers have arrived, the camp activities occur mostly on the Seventh-day Adventist property, with occasional pedestrian, equestrian, or vehicular trips to offsite areas for recreational or educational purposes.

Before and after the children's summer camp, the camp is used less intensively. On weekends in the spring, fall, and winter, 100 to 225 people, including support staff, may use the camp for retreats and group meetings. At mid-week during these off-peak months, there are usually fewer than 100 people at the camp, including the camp manager and other regular staff. Actual usage of the camp is based on demand, and can vary widely during the months outside the summer peak period.

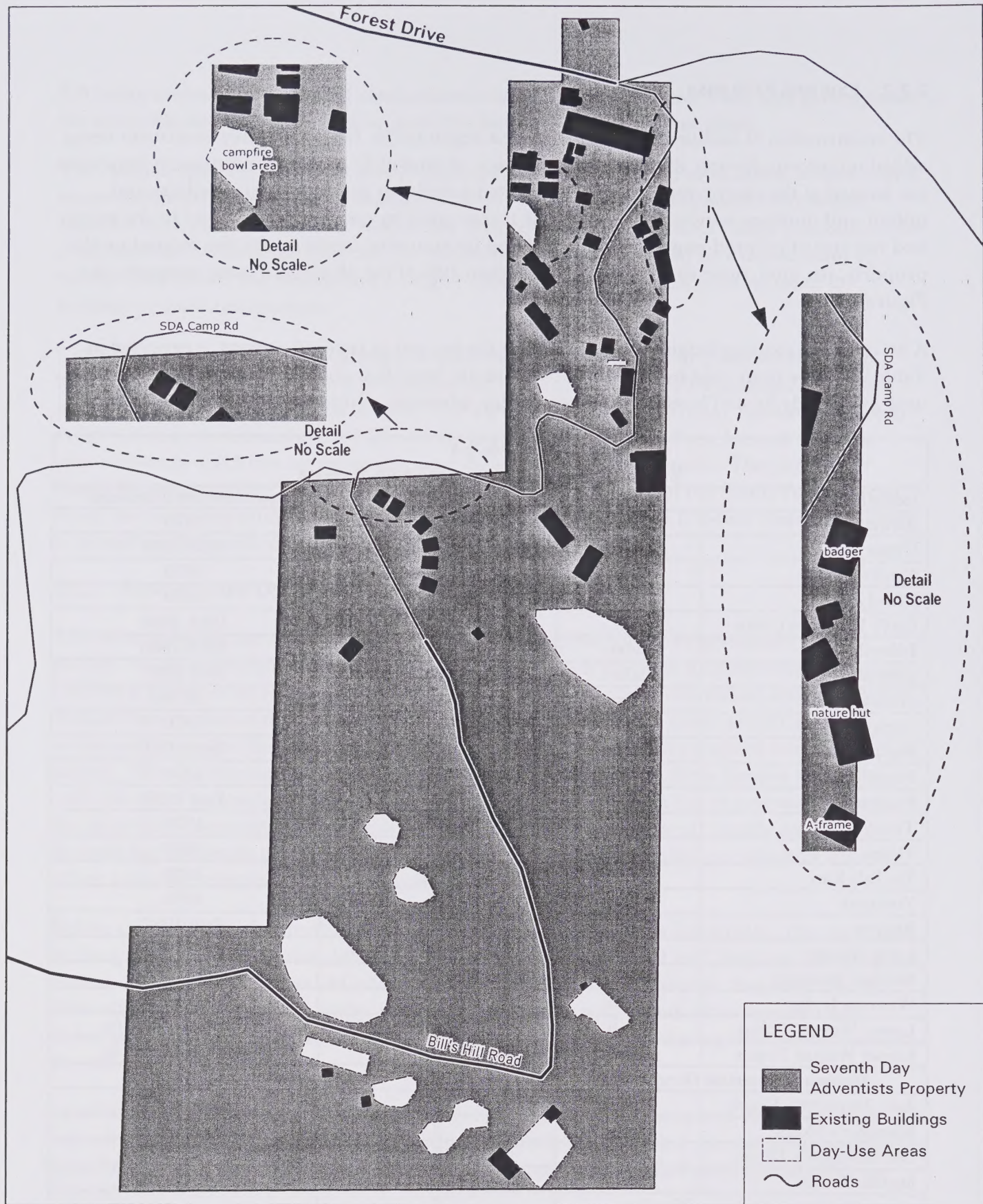
In addition to participating in group activities and presentations, visitors to the camp often take advantage of the opportunity to ride horses. During the summer, the camp maintains approximately 80 horses that are stabled onsite for camp use. Guided recreational rides are offered.

2.2.2 EXISTING FACILITIES

The construction of facilities for Camp Wawona began in the 1930s, with new structures being added incrementally over the past seven decades. A total of 42 enclosed, permanent structures are located at the camp, comprising 23 dedicated to lodging and 19 support facilities and indoor and outdoor activity areas. A mobile trailer, used by caretakers employed by the camp, and two sets of covered wagons, used as lodging for transient campers, are also located on the property. In total, these structures cover less than 10% of the 30.45-acre camp property (see Figure 2-5).

A list of the 26 existing lodging units, including the two sets of covered wagons, is provided in Table 2-1. The units used by transient occupants are listed first, followed by residences that are used exclusively by staff hired by the Seventh-day Adventists to maintain and operate the camp.

Table 2-1 Existing Lodging Facilities at Camp Wawona			
Lodging Facility	Type of Unit	Maximum Occupancy	Approximate Date of Construction
Ahwanee	Cabin	11	1970
Cedar	Cabin	4	1938-1940
Chalet	Cabin	10	1970
Chu-Look	Cabin	11	1970
Girl's Directors Cabin	Cabin	4	1938-1940
Idlewild	Cabin	4	1938-1940
Illilouette	Cabin	6	Post 1957
Miwok	Cabin	11	1970
Nangas	Cabin	11	1970
Nature Hall	Cabin	6	Post 1957
Paiute	Cabin	7	1970
Ponderosa	Cabin	8	Post 1957
Tenaya	Cabin	11	1970
Tioga	Cabin	11	1970
To-Tah-Kan	Cabin	11	1970
Yosemite	Cabin	11	1970
Badger	Dorm	13	Post 1957
Long House	Dorm	36	Post 1957
Medical Building	Dorm	18	Post 1957
Wawona Lodge	Dorm	54	Post 1957
Lower Wagon Trains	Tents	40	Imported in 1970s
Upper Wagon Trains	Tents	40	Imported in 1970s
Maximum Transient Occupancy		338	
Asst. Manager's House	Home	2	Post 1957
Manager's House	Home	2	1947
Old Manager's House	Home	2	1938
Mobile Trailer	Trailer	1	Recent
Maximum Employee Housing		7	
Maximum Occupancy		345	



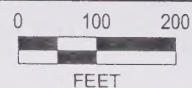
Source: Fletemeyer & Lee Associates, Inc. 2003

Existing Camp Wawona Site Plan with Details of Camp Facilities Encroaching onto Public Land

Camp Wawona Redevelopment and Land Exchange EIR

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FIGURE 2-5



The existing support facilities include restrooms, amphitheaters, maintenance buildings and sheds, a trading post, a swimming pool, a stable, a barn, a kitchen/cafeteria, an archery range, water storage tanks, water wells, and a sewage conveyance facility that is connected to the centralized sewer system for Wawona. A network of roads, footpaths, parking areas, underground (e.g., sewer and water) and overhead (e.g., telephone and electrical) utilities, and a rock retaining wall along the Forest Drive frontage are other facilities on the camp property.

2.3 PROPOSED ACTION

Camp Wawona is a legally existing, nonconforming use within the Mountain Residential zoning district of the Wawona Town Planning Area Specific Plan (WTPASP), and is, in places, less than 100 feet from the Yosemite Wilderness Area boundary. As noted above, private land within Section 35, including Camp Wawona, is jointly managed under a cooperative agreement between the National Park Service and the County. Regulations outlined in the WTPASP establish that the Superintendent of Yosemite National Park retains final approval of all entitlement actions within the confines of Yosemite National Park, including the Town of Wawona. As a result, the Superintendent has the right to authorize and/or sanction the required amendment to the WTPASP that would acknowledge Camp Wawona as a recognized and approved “conditional” use.

Because of the lack of an adequate buffer between the existing camp and the Yosemite Wilderness Area, the existing encroachment onto public land, and the desire of the Seventh-day Adventists to redevelop the property for future uses, it was proposed that the Seventh-day Adventists would request an amendment to the WTPASP and redevelop Camp Wawona in conjunction with an “equal value” exchange of land between the Seventh-day Adventists and the National Park Service. As a result of those discussions, which began in the early 1990s, the Seventh-day Adventists filed a series of applications with the County Planning Department, and the Camp Wawona Master Plan was drafted and submitted to the County and National Park Service (Coats Consulting 2002).

The Proposed Action includes each of the following steps, which would be implemented over a period of 5-10 years following agency decisions. It is expected that an MOU will be prepared between the National Park Service, County of Mariposa, and Seventh-day Adventists to define each party’s responsibilities and the specific schedule for action:

- ▶ Adopt a General Plan Amendment to create a conditional use designation for “institutional” or “religious organization campground” in the Mountain Residential zoning district of the WTPASP.
- ▶ Issue a Conditional Use Permit to acknowledge/approve the institutional/religious camp.
- ▶ Complete a land exchange between National Park Service and Seventh-day Adventists under “equal value” provisions. Based on approved land appraisals, which take into account the value of the existing improvements on the Seventh-day Adventists property, 15.36 acres of

existing Seventh-day Adventist land would be exchanged to the National Park Service in exchange for 18 acres of current National Park Service property (Figure 2-4).

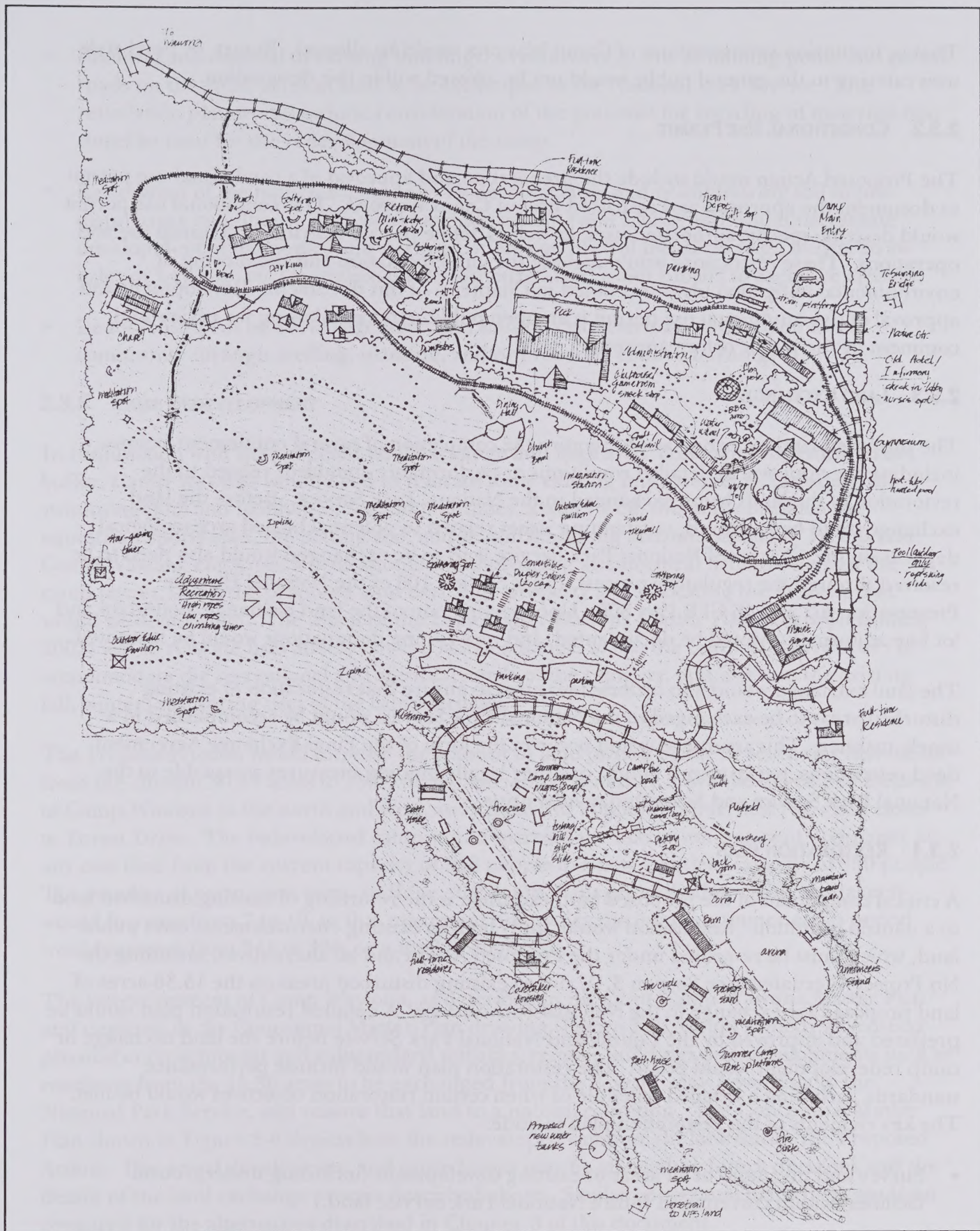
- ▶ Re-zone the exchanged 18 acres of National Park Service land to “Mountain Residential.”
- ▶ Re-zone the exchanged 15.36 acres of Seventh-day Adventist land to “Environmental Protection.”
- ▶ Complete a boundary/lot line adjustment to document the property line changes that would result from the land exchange between National Park Service and Seventh-day Adventists.
- ▶ Remove existing developed facilities from the 15.36 acres of Seventh-day Adventist land to be exchanged and restore that land to a natural condition.
- ▶ Require the removal of existing encroachments of Camp Wawona and restore the disturbed land to a natural condition. As shown in Figure 2-5, the encroaching facilities that would be removed consist of three buildings, a portion of the Campfire Bowl area, the eastern end of the main entrance road, and a segment of the paved road to the south.
- ▶ Redevelop Camp Wawona to accommodate the land exchange and the plans of the Seventh-day Adventists for future operation of the camp on the reconfigured 33.09 acres of private land (Figure 2-6).

2.3.1 GENERAL PLAN AMENDMENT AND ZONING CHANGES

Upon completion of the proposed land exchange, the 15.36 acres of land exchanged from the Seventh-day Adventists would be re-zoned from “Mountain Residential” to “Environmental Protection.” As noted in the WTPASP (County of Mariposa 1987), this zoning classification recognizes lands that should be protected because of their environmental sensitivity. Lands within the Environmental Protection zone are to be maintained as natural and open-space resource areas for recreational use and ecological balance.

The 18 acres of land exchanged from the National Park Service to the Seventh-day Adventists would be re-zoned from “Environmental Protection” to “Mountain Residential.” As noted in the WTPASP, this zoning classification provides low-density residential housing for permanent and seasonal residents in a manner that maintains the mountain residential character of Wawona. Permitted land uses within the Mountain Residential district include single-family dwelling units, open space, public parks, and accessory buildings and uses. Churches and utility substations are allowed with a use permit. Campgrounds, “church” camps, and “recreational” camps (e.g., Camp Wawona) are not permitted or conditional uses within this designation (County of Mariposa 1981).

An amendment to the County General Plan would be prepared and approved to allow for a conditional use designation of “institutional” or “religious organization campground.” This designation would allow for activities and uses comparable to the current camp operation.



Source: Fietemeyer & Lee Associates, Inc. 2003

Conceptual Camp Wawona Master Plan for Proposed Action

FIGURE 2-6

Camp Wawona Redevelopment and Land Exchange EIR
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That is, institution-sponsored use of Camp Wawona would be allowed. Resort- or hotel-style uses catering to the general public would not be allowed within this designation.

2.3.2 CONDITIONAL USE PERMIT

The Proposed Action would include the preparation and approval of a conditional use permit to document the approved and restricted uses of Camp Wawona. This conditional use permit would describe specific authorized uses, as well as define precise restrictions to camp use and operations. These restrictions would include the implementation and monitoring of environmental mitigation measures noted in Chapter 5 of this document. Development and approval of the conditional use permit is an open public process, allowing for review and comment by the public before approval.

2.3.3 LAND EXCHANGE

The proposed land exchange would require the completion of several entitlement actions, including the approval of detailed conditions or performance standards related to the restoration of the lands being exchanged to the National Park Service. Before the land exchange could be approved, outstanding issues related to potential buried archaeological deposits on the 18 acres of National Park Service land to be exchanged would also need to be resolved through the regulatory process under Section 106 of the National Historic Preservation Act and 36 CFR Part 800. Upon completion of the land exchange, boundary and lot line adjustments would be documented, and new zoning designations would be instituted.

The land exchange would also include measures to ensure that restoration of existing disturbed areas to be exchanged to the National Park Service would be accomplished in a timely manner. This assurance would occur in the form of the Final Exchange Agreement, deed restrictions, performance bonds, or other legally binding measures acceptable to the National Park Service and Seventh-day Adventists.

2.3.4 RESTORATION PLAN

A critical component of the proposed land exchange is the returning of existing disturbed land to a natural condition. Restoration would apply both to existing encroachments onto public land, which must be remedied under the Proposed Action and all alternatives, including the No Project Alternative (see Section 3.1), and to existing disturbed areas on the 15.36 acres of land proposed for exchange to the National Park Service. A detailed restoration plan would be prepared and approved by the County and National Park Service before the land exchange or camp redevelopment would occur. The restoration plan would include performance standards, including a detailed schedule of when certain restoration objectives would be met. The key elements of this restoration plan include:

- ▶ Survey and inventory of all areas of existing development (including underground facilities) within current and future National Park Service land.

- ▶ Removal and disposal of existing buildings, structures (e.g., the swimming pool), and paved roads on the 15.36 acres of land to be exchanged to the National Park Service. The restoration plan would include consideration of the potential for recycling of materials that could be used for the redevelopment of the camp.
- ▶ Restoration of the natural topography by decompacting and re-contouring soil to pre-disturbance conditions. This would include grading and filling, and would necessitate development of temporary and permanent erosion control measures (e.g., mulch, straw bales or hay logs, etc.) to ensure the re-contoured land is not subject to excessive erosion.
- ▶ Re-establishment of native vegetation and natural characteristics of the open forest community through seeding, planting, and/or broadcast control burning.

2.3.5 CAMP REDEVELOPMENT

In conjunction with the proposed land exchange and improved Yosemite Wilderness Area buffer, Camp Wawona would need to relocate some existing improvements, including the swimming pool and bathhouse, restroom facilities, a water well, the stable facilities, the equestrian sports area, the petting zoo, and seasonal housing accommodations. To this end, Camp Wawona employed a professional camp planning architectural firm to redesign the camp layout, using the proposed land exchange property and relocating the facilities that would be demolished. The intent of the Draft Camp Wawona Master Plan (Coats Consulting 2002) was to relocate uses affected by the land exchange; to use the camp property better to accommodate the recreational and spiritual needs of the campers; and increase the existing fall, winter, and spring uses of the camp facilities.

The Proposed Action would increase the amount of land owned by the Seventh-day Adventists from the current 30.45 acres to 33.09 acres, and would generally move the developed elements of Camp Wawona to the north and west, away from the Yosemite Wilderness Area and closer to Forest Drive. The redeveloped camp would increase the maximum transient occupancy at any one time from the current capacity of 338 people to a new transient capacity of 350 people. The number of permanent camp staff (i.e., the camp manager and other camp caretakers) would increase from 7 to 10, so that maximum occupancy during the summer camp period would increase from 345 to 360, or a total of about 4%.

The redevelopment of Camp Wawona, as described in the Draft Camp Wawona Master Plan and depicted in the Conceptual Master Plan drawing (Figure 2-6), would remedy all existing physical encroachments and substandard setbacks, remove buildings and developments such as roadways from the 15.36 acres to be exchanged from the Seventh-day Adventists to the National Park Service, and restore that land to a natural condition. The Conceptual Master Plan shown in Figure 2-6 depicts how the redeveloped camp might look under the Proposed Action. The actual development and camp layout may be affected by future decisions and the details of the land exchange process described above. Similar conceptual plans have not been prepared for the alternatives described in Chapter 3 of this document.

ENTRANCES AND CIRCULATION

A new main entrance to Camp Wawona from Forest Drive would be constructed. The new access would be located slightly west of the existing entrance, eliminating the existing encroachment of the driveway on National Park Service lands. Onsite parking and circulation near the entry would be improved by emphasizing a one-way entry loop for use by buses and delivery vehicles, and expanding the parking area near the front of the property. A total of 80 parking spaces would be provided on the new camp property. The new loop driveway would also provide secondary vehicular access from the camp property to Forest Drive for emergency purposes.

As shown in Figure 2-6, a narrow-gauge recreational railroad is proposed to loop in and around the developments in the northern portion of the camp. A series of small trails would provide access to various portions of the camp property.

The existing road that provides access to the southern portion of the camp property would be retained, with a new parking area to be constructed near the new central lodging facilities. Existing roads located on the 15.36 acres to be exchanged to the National Park Service (some of which extend into the Yosemite Wilderness Area) would be abandoned, pavement would be removed, and the roads would be restored to a natural condition.

LODGING FACILITIES

Most of the existing lodging facilities, many of which are more than 30 years old, would be removed and replaced with more efficient buildings in three functional groupings. A set of five “mini-lodges” for transient use by 24 to 48 people each would be situated in the northern portion of the redeveloped property. This set of lodging facilities is intended for adult campers who are on spiritual retreats or participating in study group sessions during off-peak periods. During the summer camp, these lodges would be occupied primarily by adults who assist in the management and supervision of the youth activities and events. Because of the accreditation requirements of the Christian Camping Association, Camp Wawona cannot sponsor adult retreats simultaneously with the summer youth camp program.

A series of eight convertible duplex cabins is proposed in the central portion of the redeveloped camp property (see Figure 2-6). These cabins are each capable of housing 20 transient occupants, and are intended for use by summer camp visitors and counsellors. The interior walls of these dormitory-style units can be reconfigured to accommodate smaller family units during the off-peak season, but maximum transient occupancy would remain at 20 visitors for each unit.

At the southern end of the reconfigured Camp Wawona property, temporary lodging facilities such as tent platforms are proposed. Two centralized bathhouses would provide restroom facilities for these units.

RECREATIONAL FACILITIES

The recreational activities provided at Camp Wawona represent one of the main attractions of the summer camp experience for the children. The Draft Master Plan and Conceptual Master Plan (see Figure 2-6) describe and depict a series of relocated or new recreational facilities scattered around the property. These proposed facilities include:

- ▶ a gymnasium near the main entrance;
- ▶ two swimming pools (small covered pool and larger pool with rope swing and slide);
- ▶ a nature/historical center for educational purposes;
- ▶ a train “depot” adjacent to the small railroad loop near the main entrance;
- ▶ a clubhouse and game room;
- ▶ a sand volleyball court;
- ▶ an outdoor education pavilion;
- ▶ a play field/archery range;
- ▶ a horse barn, corral, and arena; and
- ▶ a petting zoo.

To provide for equestrian opportunities, the camp currently maintains a stable of 80 horses on the site. The new horse barn and corral would be designed to maintain this same maximum number of horses or similar domestic animals. This maximum number of domestic animals would only be onsite during the summer months (June through August), as is currently the case.

Other Facilities

A new information/nurses station building would be constructed near the main entryway. This building would provide visitor information services and a small medical office for campers and onsite staff. As shown in Figure 2-6, a relocated dining hall, with indoor and outdoor dining areas, is planned near the main entrance. A chapel, a church “bowl” or amphitheatre, and other outdoor gathering areas are proposed, as is a new maintenance garage. The maintenance garage would also house the two onsite fire trucks.

Four residential units would be provided for use by the camp manager and other camp staff. This is the same number of facilities currently available for non-transient staff. The individuals using these buildings are employed by the Seventh-day Adventists for the routine care and maintenance of the camp. These non-transient residences would provide for a maximum occupancy of 10 people, so that total occupancy (transient and non-transient) at any one time could reach a maximum of 360.

The three water storage tanks currently located onsite would be replaced with two new water tanks, located near the southern limit of the proposed new property limits (see Figure 2-6). Water supply lines from these tanks to onsite fire hydrants located throughout the camp would be constructed.

2.3.6 IMPLEMENTATION SCHEDULE

The redevelopment of the camp is expected to occur over a 10-year period. Following the General Plan amendment, updates to the WTPASP, and a Conditional Use Permit, this redevelopment would be initiated with the transfer of land between the National Park Service and the Seventh-day Adventists. In the initial phase, the existing camp developments on the 15.36 acres to be exchanged to the National Park Service would be removed, and disturbed areas would be restored in accordance with the approved restoration plan. Redevelopment of the camp is expected to occur in three phases, with new areas being developed as existing developments are abandoned.

3 ALTERNATIVES TO THE PROPOSED ACTION

The analysis of alternatives to a proposed action is a fundamental aspect of the CEQA and NEPA processes. As stated in the DO-12 Handbook and Director's Order (NPS 2001b), alternatives "propose different means of accomplishing ... goals, while at the same time protecting or minimizing impacts to some or all resources." Reasonable alternatives are "those that are economically and technically feasible, and that show evidence of common sense" (NPS 2001b). As stated in the CEQA Guidelines (§15126.6), "an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." An EIR "must consider a reasonable range of potentially feasible alternatives that will foster informed decision making" (§15126.6). This chapter describes the alternatives considered for this project.

3.1 NO PROJECT

The concept of the No Project Alternative is to examine the environmental consequences associated with not implementing the actions described in the Proposed Action. The No Project Alternative would involve continued operation of Camp Wawona without resolving the land use policy inconsistency. Redevelopment of the camp would not occur, and there would be no land exchange between the National Park Service and the Seventh-day Adventists. The removal of existing privately owned facilities that encroach on National Park Service lands, and restoration of that land, would be required. Specifically, the following would occur under the No Project Alternative:

- ▶ The existing Seventh-day Adventists and National Park Service land holdings in Section 35 would be retained.
- ▶ The removal of existing encroachments of Camp Wawona and restoration of the disturbed land to a natural condition would be required. As shown in Figure 2-5, the encroaching facilities that would be removed consist of three buildings, a portion of the Campfire Bowl area, the eastern end of the main entrance road, and a segment of the paved road to the south.
- ▶ The current conditional uses in the Mountain Residential zoning designation of the WTPASP, which do not include "institutional" or "religious" camp uses, would be left unchanged.
- ▶ Existing legal camp developments that are less than 100 feet from the Yosemite Wilderness Area would be left in place.

Under the No Project Alternative, the National Park Service and the County would not be able to approve future building permits or other discretionary developments on the Seventh-day Adventists property, leaving the camp with no legal means to redevelop its facilities, including

moving or replacing lost or damaged buildings. There would be no improvement in the buffer between the camp facilities and activities and the Yosemite Wilderness Area. This alternative would not meet any of the three “purpose and need” objectives stated in Section 1.1 of this document.

3.2 NO LAND EXCHANGE ALTERNATIVE

The concept of the No Land Exchange Alternative is to examine the environmental consequences associated with implementing several of the actions described in the Proposed Action, without exchanging land between the National Park Service and the Seventh-day Adventists. The No Land Exchange Alternative would involve amendments to the WTPASP and County General Plan that would resolve the land use policy inconsistency and allow for redevelopment and continued operation of Camp Wawona through an amendment to the Camp Wawona Master Plan. The removal of existing privately owned facilities that encroach on National Park Service lands, and restoration of that land, would be required. The following are the key elements of the No Land Exchange Alternative:

- ▶ retain the existing Seventh-day Adventists and National Park Service land holdings in Section 35,
- ▶ remove the existing private facilities that encroach on National Park Service land (see Figure 2-5) and restore that land to a natural condition, and
- ▶ amend the WTPASP and County General Plan to include “institutional” or “religious organization campground” as a conditional (or permitted) use in the Mountain Residential zone.

Under this alternative, the County and the National Park Service could approve conforming future improvements on the Seventh-day Adventists property. By amending the existing land use plans and allowing for redevelopment of the camp on the existing 30.45-acre private parcel, two of the three primary objectives of the Proposed Action would be met. However, there would be no improvement in the existing buffer between the camp developments and activities and the Yosemite Wilderness Area.

3.3 REDUCED LAND EXCHANGE ALTERNATIVE

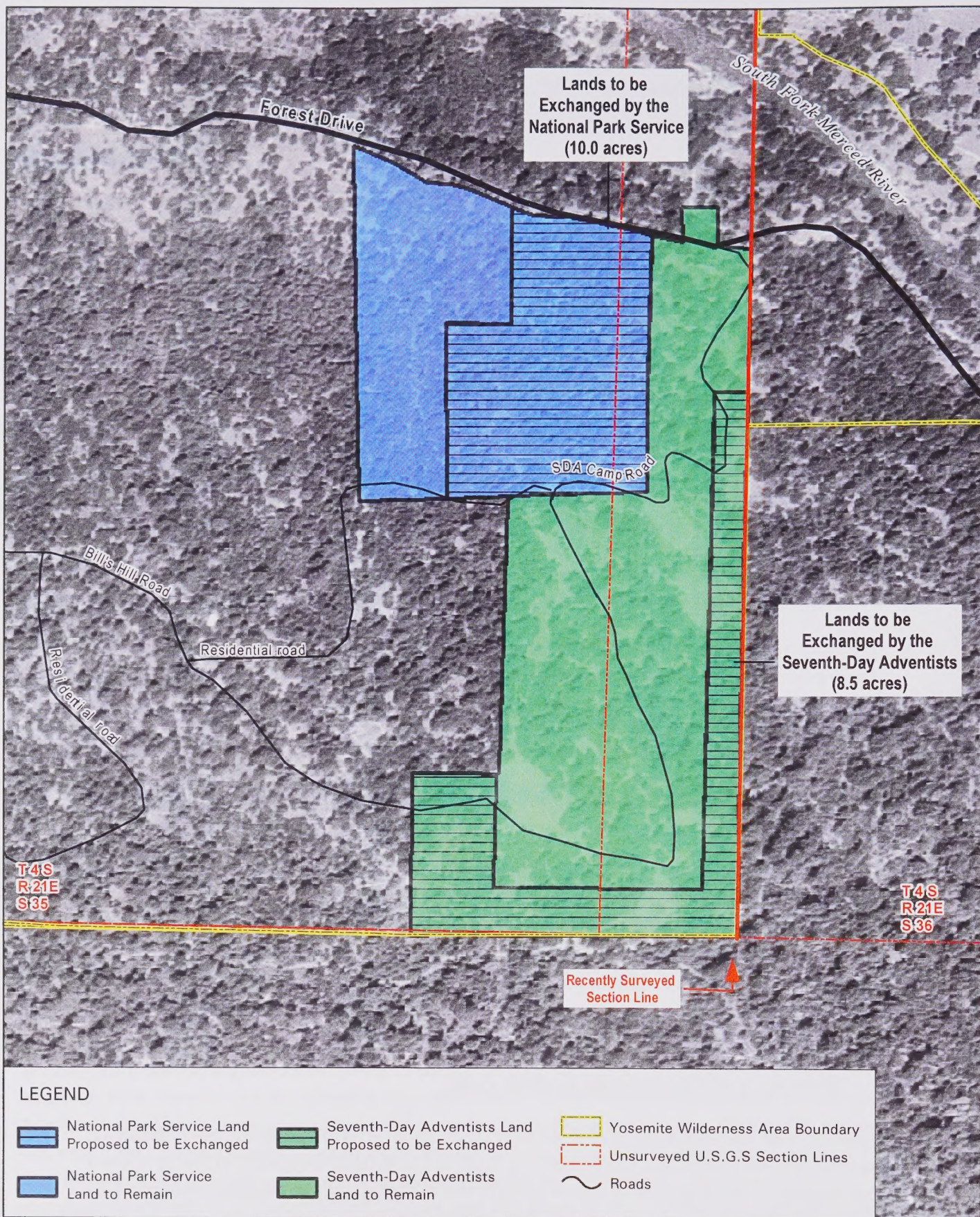
The objective of the Reduced Land Exchange Alternative is to examine the environmental consequences associated with implementing each of the actions described in the Proposed Action, but under this alternative, lesser amounts of land would be exchanged between the National Park Service and the Seventh-day Adventists. Under the Reduced Land Exchange Alternative, existing encroachments would be removed, relevant plans (i.e., WTPASP, County General Plan, Camp Wawona Master Plan) would be amended to allow for future camp modifications, and a reduced amount of acreage (based on equal land values) would be exchanged between the National Park Service and the Seventh-day Adventists. The following are the key elements of this alternative:

- ▶ adopt a General Plan Amendment to create a conditional use designation for “institutional” or “religious organization campground” in the Mountain Residential zoning district of the WTPASP,
- ▶ issue a Conditional Use Permit to approve the recreational/church camp,
- ▶ complete a land exchange between the National Park Service and the Seventh-day Adventists under “equal value” provisions. Based on approved land appraisals, 8.5 acres of existing Seventh-day Adventists land would be exchanged to the National Park Service in exchange for 10 acres of current National Park Service property (Figure 3-1),
- ▶ establish a minimum 100-foot-wide buffer between the Yosemite Wilderness Area and Camp Wawona on the south and east sides of the Seventh-day Adventists property,
- ▶ re-zone the exchanged 10 acres of National Park Service land to “Mountain Residential,”
- ▶ re-zone the exchanged 8.5 acres of Seventh-day Adventists land to “Environmental Protection,”
- ▶ complete a boundary/lot line adjustment to record the property line changes that would result from the land exchange between National Park Service and Seventh-day Adventists,
- ▶ remove the existing private facilities that encroach on National Park Service land (see Figure 2-5) and restore that land to a natural condition,
- ▶ remove existing developed facilities from the 8.5 acres of Seventh-day Adventists land to be exchanged and restore that land to a natural condition, and
- ▶ redevelop Camp Wawona to accommodate the land exchange and the plans of the Seventh-day Adventists for future operation of the camp.

Under this alternative, the County and the National Park Service could approve conforming future improvements on the Seventh-day Adventists property, and the land exchange would serve to improve the buffer between the Yosemite Wilderness Area and the Camp Wawona developments. Because the existing land use plans would be amended and redevelopment of the camp would be allowed, all three of the primary objectives of the Proposed Action (i.e., resolve land use plan inconsistency, redevelop the camp, and improve the buffer between the Yosemite Wilderness Area and Camp Wawona) would be met under this alternative.

3.4 MINIMAL LAND EXCHANGE ALTERNATIVE

The objective of the Minimal Land Exchange Alternative is to examine the environmental consequences associated with implementing each of the actions described in the Proposed Action; however, this alternative would involve the exchange of the smallest amount of land necessary to establish the minimum 100-foot buffer between Camp Wawona and the Yosemite Wilderness Area. The Minimal Land Exchange Alternative would technically meet all three of



Source: Yosemite National Park 2000, U.S.G.S 1993

Reduced Land Exchange Alternative

FIGURE 3-1

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the purpose and need statements described in Section 1.1 (resolve land use plan inconsistency; allow redevelopment of the camp; and improve the wilderness buffer). This alternative would involve the following actions:

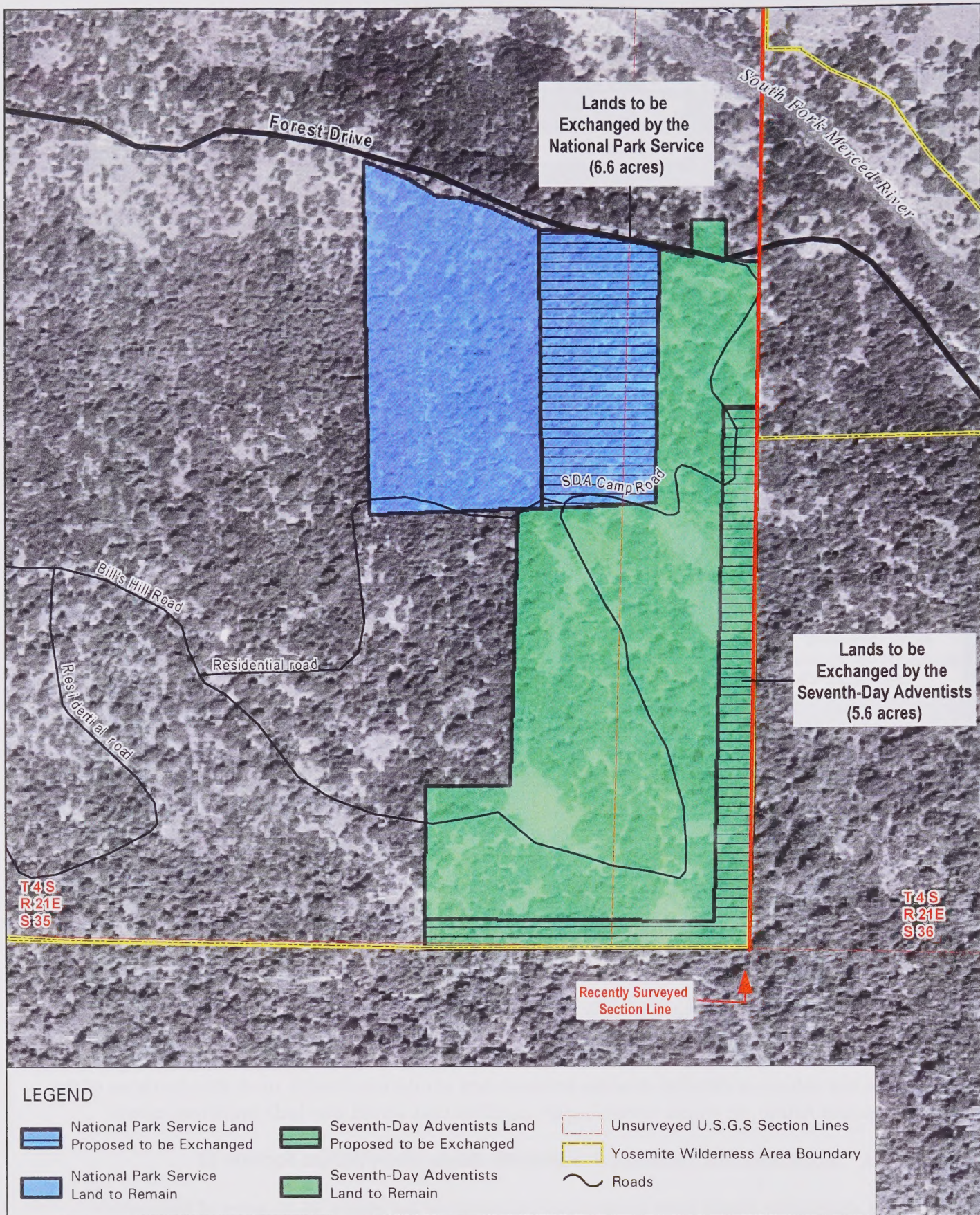
- ▶ adopt a General Plan Amendment to create a conditional use designation for “institutional” or “religious organization campground” in the Mountain Residential zoning district of the WTPASP;
- ▶ issue a Conditional Use Permit to approve the recreational/church camp;
- ▶ complete a land exchange between the National Park Service and the Seventh-day Adventists under “equal value” provisions. Based on approved land appraisals, 5.6 acres of existing Seventh-day Adventists land would be exchanged to the National Park Service in exchange for 6.6 acres of current National Park Service property (Figure 3-2);
- ▶ establish a minimum 100-foot-wide buffer between the Yosemite Wilderness Area and Camp Wawona on the south and east sides of the Seventh-day Adventists property;
- ▶ re-zone the exchanged 6.6 acres of National Park Service land to “Mountain Residential;”
- ▶ re-zone the exchanged 5.6 acres of Seventh-day Adventists land to “Environmental Protection;”
- ▶ complete a boundary/lot line adjustment to record the property line changes that would result from the land exchange between the National Park Service and the Seventh-day Adventists;
- ▶ remove the existing private facilities that encroach on National Park Service land (see Figure 2-5) and restore the land to a natural condition;
- ▶ remove existing developed facilities from the 5.6 acres of Seventh-day Adventists land to be exchanged and restore that land to a natural condition; and
- ▶ redevelop Camp Wawona to accommodate the land exchange and the plans of the Seventh-day Adventists for future operation of the camp.

3.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Several alternatives to the Proposed Action were considered during the planning process, but were not subject to detailed analysis because they would not feasibly meet the objectives of the Proposed Action, or would result in plan conflicts that would preclude implementation.

3.5.1 MODIFIED LAND EXCHANGE ALTERNATIVE—RELOCATION WITHIN SECTION 35

This alternative would have involved an exchange of the entire 30.45 acres of the current Seventh-day Adventists property to the National Park Service in exchange for existing public



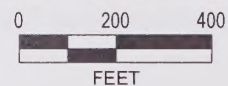
Source: Yosemite National Park 2000, U.S.G.S 1993

Minimal Land Exchange Alternative

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FIGURE 3-2



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land elsewhere in Section 35. Because the land exchange would have been subject to the “equal value” requirements, and because of the substantial developments on the existing Seventh-day Adventists property, the National Park Service would have had to exchange a significant parcel (estimated to be at least 40 acres) of land to the Seventh-day Adventists. Because the National Park Service land in Section 35 has already been designated for other uses in the Yosemite Valley Plan and the Merced River Plan, this proposed exchange would have conflicted with those plans. For this reason, this alternative was not considered further.

3.5.2 DESTINATION RESORT ALTERNATIVE

The Destination Resort Alternative would have allowed for the development of a resort- or hotel-style facility on the existing Seventh-day Adventists property, or on reconfigured land involving a land exchange with the National Park Service. Under this alternative, a facility oriented toward use by the general public, with more traditional resort-style amenities, would have been allowed. Because this type of use would not have been consistent with the Mountain Residential land use, a new zoning designation would have had to be applied to the Seventh-day Adventists property.

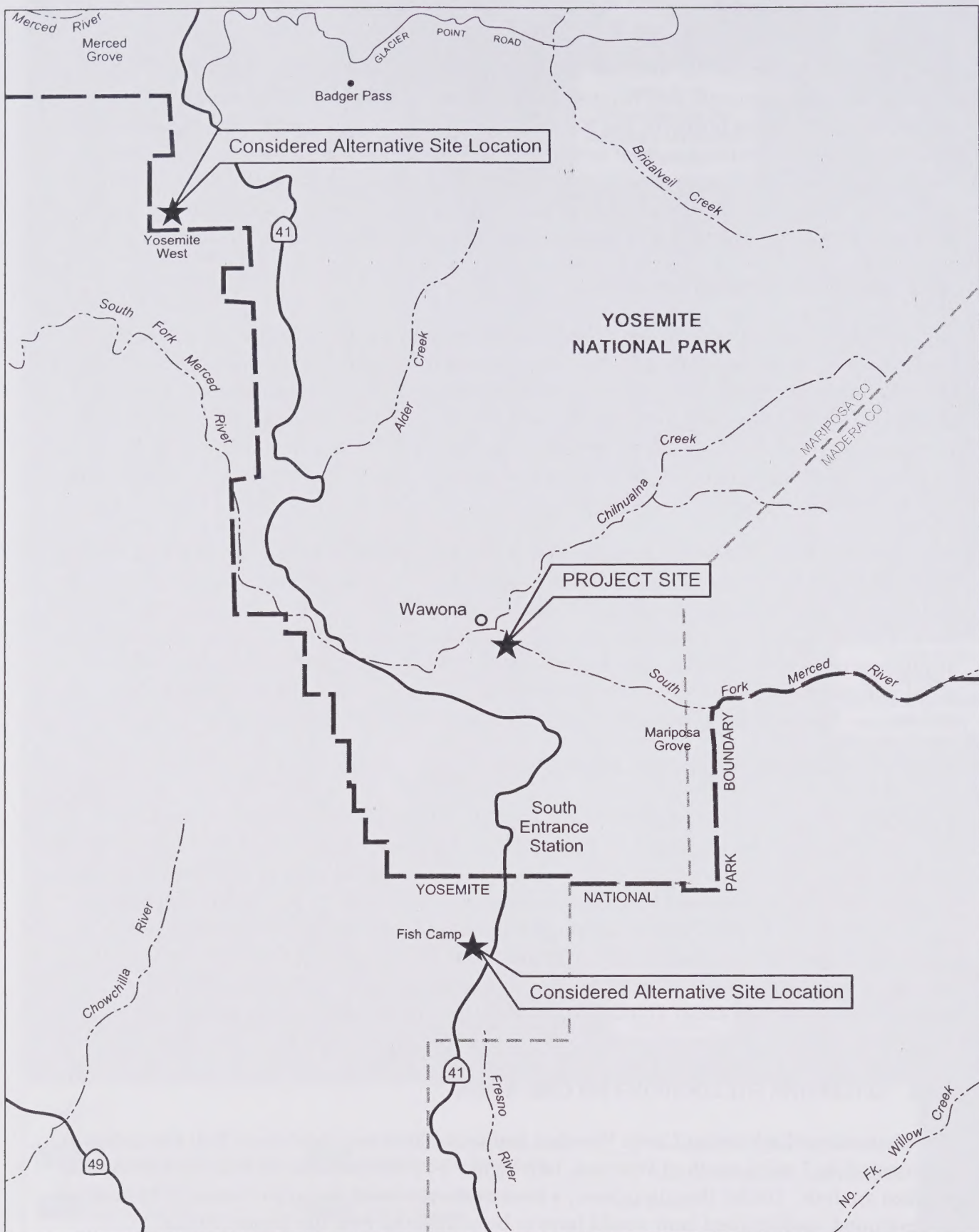
This alternative was eliminated from detailed analysis because a development of this nature would not have been consistent with the existing community character or with the guiding principle of maintaining the “small town” atmosphere of Wawona. This alternative may also have required significant modifications to the alignment and width of Forest Drive, and the acquisition of road easements on both private and public land could have been necessary. A development of this nature would also have led to greater potential conflicts with the Yosemite Wilderness Area and the values of the South Fork Merced Wild and Scenic River.

3.5.3 ALTERNATIVE SITE LOCATION–YOSEMITE WEST

The alternative of relocating Camp Wawona and its facilities to a location in Yosemite West, about 16 miles north of Wawona (see Figure 3-3) was considered, but eliminated from detailed analysis. Redevelopment of Camp Wawona at this location, which is at an elevation of about 6,000 feet, would have required the conversion of approximately 33 acres of undeveloped, undisturbed land. Under this alternative, use of the camp would have created additional traffic impacts because of the increased distance from the entrance to Yosemite National Park and the additional elevation. Cars and busses bringing campers and vehicles providing support services for the camp would have traveled an additional 32 miles under this alternative.

3.5.4 ALTERNATIVE SITE LOCATION–FISH CAMP NORTH

The alternative of relocating Camp Wawona and its facilities to a location in Fish Camp North, approximately 7 miles south of Wawona, (see Figure 3-3) was considered, but eliminated from detailed analysis. Under this alternative, a land exchange involving approximately 33 acres of undeveloped, undisturbed land would have to be completed with the United States Department of Agriculture, Forest Service, rather than the National Park Service.

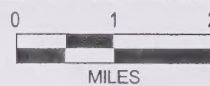


Source: California State Automobile Association, Yosemite 1999

Alternative Site Locations Considered and Eliminated

FIGURE 3-3

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4 AFFECTED ENVIRONMENT

INTRODUCTION

This chapter presents the analysis topics included in the Camp Wawona Redevelopment and Proposed Land Exchange Project EIR. Topics were selected based on federal and state laws, regulations, Executive Orders, National Park Service Management Policies, the CEQA Guidelines, and concerns expressed by the public, park staff, or other agencies during scoping and comment periods. Eleven separate resource topics are discussed in detail in this chapter, as noted below. This introduction also provides a discussion of five topics that were dismissed from further analysis.

To conduct an environmental analysis under NEPA and CEQA, the “baseline” or “affected environment” must first be described. This section provides information on the existing natural, cultural, and social conditions relevant to the proposed action. The regulatory context relevant to applicable resource topics is also presented in this section. The information provided on existing conditions forms the basis for considering the potential impacts of the proposed action and the action alternatives, as presented in Chapter 5, Environmental Consequences.

IMPACT TOPICS CONSIDERED IN THIS DOCUMENT

Natural Resources

The federal and state Endangered Species Acts (and associated legislation), Clean Water Acts, Clean Air Acts, and NEPA require that the effects of proposed actions on natural resources be examined. Significant natural resources, such as habitat that could support special-status species, exist within the project site, and could be affected by the proposed action. Because the project area is located within Yosemite National Park—an area of abundant natural resources—it is necessary to characterize these natural resources and the environmental consequences to these resources that would result from implementation of the project. Analysis was performed for the following natural resource topics: vegetation, wildlife, and special-status species, hydrology and water quality (including floodplains and wetlands), and geology and soils.

Cultural Resources

The National Historic Preservation Act, the Archeological Resources Protection Act, the Native American Graves Protection and Repatriation Act, NEPA, and CEQA require that the effects of proposed actions on cultural resources be examined. The project site is within the Wawona Archaeological District, several historic-era archeological sites are known to occur within or immediately adjacent to the project site, and there is potential that additional resources are present beneath thick forest duff or alluvial soils associated with the South Fork Merced River. Therefore, analysis was performed for archeological resources, ethnographic resources, and cultural landscape resources, including historic sites and structures.

Social Resources

The analysis of social resources examines the effects of the proposed action on the social environment in Wawona. The park's scenic resources are a major component of the park visitor's experience. Conserving the scenery is a crucial component of the National Park Service Organic Act of 1916 and the park's enabling legislation. Stewardship of Yosemite National Park requires consideration of two integrated purposes: to preserve Yosemite's unique natural and cultural resources and scenic beauty, and to make these resources available to visitors for study, enjoyment, and recreation. The proposed action has the potential to affect the type and quality of recreational and residential uses in and around the immediate vicinity of the project site. The proposed redevelopment of Camp Wawona could affect various aspects of the existing environment that relate primarily to how humans perceive and experience their environment. To address these issues, analysis was performed for the following social resource topics: land use, air quality, noise, aesthetics and visual resources, traffic and transportation, public utilities and services, and hazards and hazardous materials.

IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS

Several environmental topics were found to be not relevant to the proposed action. Four of these were eliminated from further analysis during the CEQA Notice of Preparation and subsequent scoping (agricultural resources, mineral resources, recreation, and population and housing). The fifth topic, environmental justice, is a specific analysis conducted under NEPA. A brief discussion as to why these topics were found to be not relevant is provided.

Agricultural Resources

There are no farmlands or other agricultural lands in or adjacent to the project site, and the proposed action would not have indirect effects on downstream agricultural lands. Thus, no further discussion of this topic is necessary.

Mineral Resources

There is no mining within the project area, and there are no known mineral resources that occur in the project site. No further discussion of this topic is necessary.

Recreation

The proposed action involves recreational opportunities for people using Camp Wawona. Yosemite National Park is managed by the National Park Service in a manner intended to balance recreational and ecological values. These issues are incorporated in the analysis of the proposed action (e.g., improvement of the buffer between Camp Wawona and the Yosemite Wilderness Area), and no further separate discussion is necessary.

Population and Housing

The proposed action would not induce substantial population growth in Wawona, would not displace existing housing (except in the context of the redevelopment of Camp Wawona and replacement of associated staff housing), and would not displace people. Therefore, no further discussion of this topic is necessary.

Environmental Justice

No aspect of the proposed action would result in disproportionately high and adverse human health or environmental effects on minority or low-income populations. Furthermore, none of the action alternatives would change current management direction with respect to housing policies in Yosemite National Park, El Portal, or other areas adjacent to the park. Policies concerning the future availability of housing in these areas are already in place and would not change as a result of the project. Therefore, the action alternatives would not result in the destruction or disruption of community cohesion and economic vitality, displacement of public and private facilities and services, increased traffic congestion, and/or exclusion or separation of minority or low-income populations from the broader community.

4.1 LAND USE AND PLANNING

This section discusses land use and planning issues relevant to the Camp Wawona Redevelopment and Proposed Land Exchange project. Sources of information used to prepare this section include planning documents prepared by the County and the National Park Service (see Section 1.3 and Appendix A for a complete list of these plans).

4.1.1 ENVIRONMENTAL SETTING

Camp Wawona is located on private property that is surrounded by lands managed by Yosemite National Park. The private lands in the Town of Wawona are under the joint jurisdiction of the County and the National Park Service, as described within the 1987 Memorandum of Understanding (MOU) executed between the County and the National Park Service. The MOU is implemented through the Wawona Town Planning Area Specific Plan (WTPASP). This agreement allowed Yosemite National Park to cede its “exclusive jurisdiction” over private lands in Section 35 to the State of California. The County, as a political subdivision of the state, manages this working arrangement. Subsequently, several agreements have been established between the County and the National Park Service relative to Section 35.

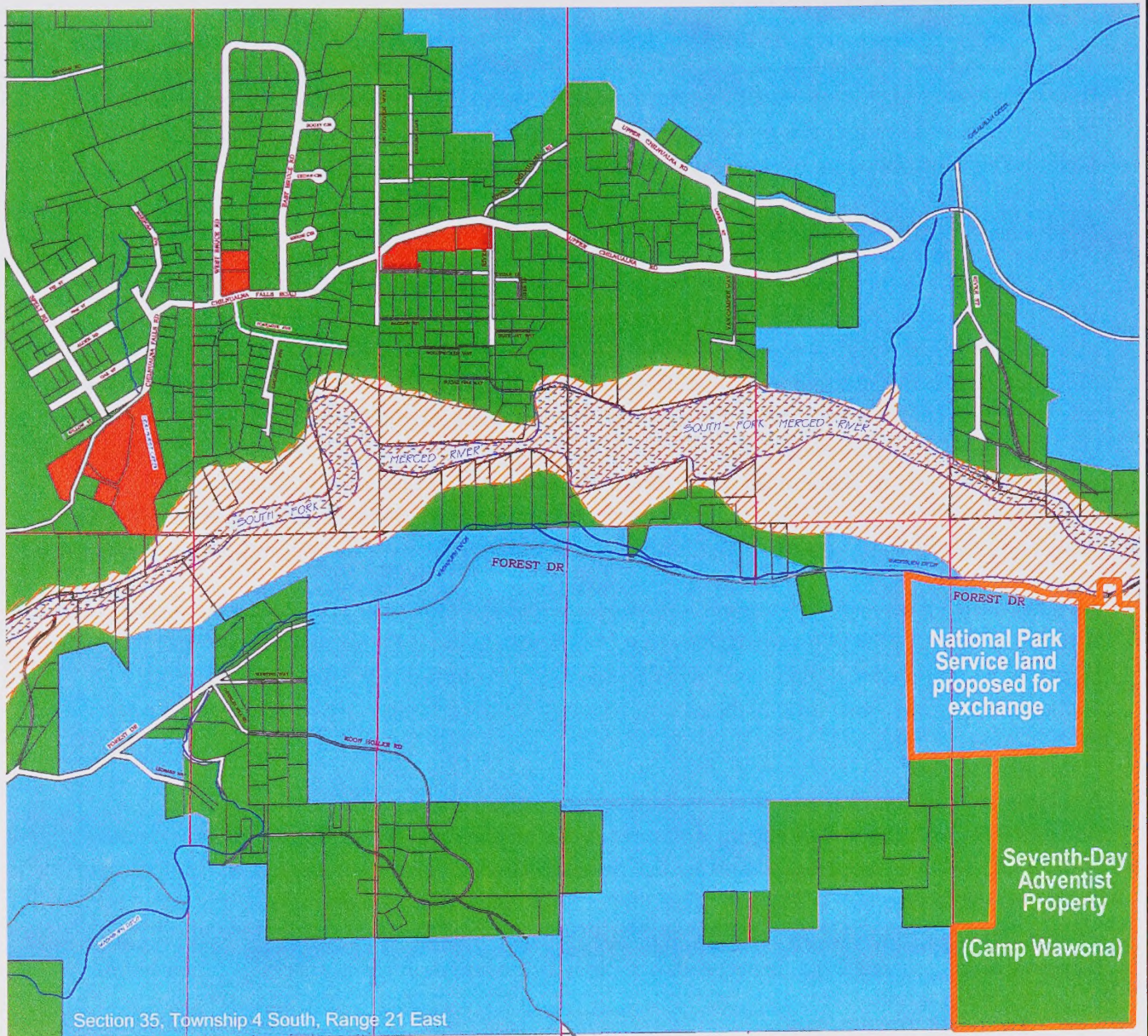
In accordance with the agreements, the proposed action must comply and be consistent with a number of local plans and regulations (e.g., Mariposa County General Plan, WTPASP), state regulations, and federal plans and regulations (e.g., Yosemite National Park General Management Plan, Yosemite Valley Plan, Merced Wild and Scenic River Comprehensive Management Plan).

Because the proposed action involves both private and public lands, both local land use designations and federal planning documents are applicable. The existing camp, which is located on private property owned by the Seventh-day Adventists, is subject to the land use designations within the WTPASP. The public land managed by the National Park Service is subject to the zoning and management decisions conveyed in the Yosemite National Park General Management Plan, Merced River Plan, and other federal documents listed below.

LOCAL LAND USE DESIGNATION

The project site and the surrounding area are located in the Town of Wawona, which is classified by the County General Plan Update 2003 as a town planning area. Land use designations and land use development standards, which function as zoning regulations, within this town planning area are defined and assigned in the WTPASP.

The existing church camp is a legally existing, non-conforming use within an area with the Mountain Residential (MR) designation (Figure 4.1-1). A portion of the surrounding land to the west is also in the MR district. The MR designation provides low-density residential housing for permanent and seasonal residents in a manner that maintains the mountain residential character of Wawona. Permitted land uses within the MR district include single-



Legend

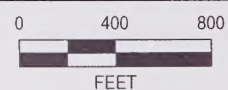
-  FP - Floodplain
-  MR - Mountain Residential
-  LC - Limited Commercial
-  EP - Environmental Protection

Source: Todd Lewis 2001

Wawona Planning Area Specific Plan Zoning Map

FIGURE 4.1-1

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family dwelling units, open space, public parks, and accessory buildings and uses. Churches and utility substations are allowed with a use permit. Campgrounds are not a permitted use within this designation (Mariposa County 1981).

Most of the land surrounding the project site, including the National Park Service land proposed for exchange, is designated Environmental Protection (EP) within the WTPASP. However, as described in Section 4.1.2, the public land managed by the National Park Service in Section 35, including the 18 acres proposed for exchange to the Seventh-day Adventists, is subject to the Yosemite National Park General Management Plan and the Merced River Plan, not the WTPASP.

The northern portion of the Seventh-day Adventists property and other lands along the South Fork Merced River are designated Floodplain (FP). The zoning map in the WTPASP indicates the FP zone extends to the south of Forest Drive, although the 100-year floodplain is further to the north (see Section 4.6). Lands are given the EP designation due to their environmental sensitivity, and are maintained as natural and open space resources areas for recreational uses and ecological balance. The FP district comprises the 100-year floodplain of the South Fork Merced River. Lands in the FP district are so designated for the purpose of protecting persons and their property from environmental hazards and for the purpose of aiding natural drainage. Permitted uses within the EP and FP districts include recreational uses (e.g., picnic areas, hiking trails, etc.), management of fish and wildlife habitat, and open space uses. No new construction is permitted in EP and FP districts (Mariposa County 1981).

4.1.2 REGULATORY FRAMEWORK

NATIONAL PARK SERVICE

The numerous laws, regulations, and policies applicable to the proposed action are provided in Appendix A. The management and implementation plans adopted by Yosemite National Park that are relevant to the Wawona area are described below.

YOSEMITE NATIONAL PARK GENERAL MANAGEMENT PLAN

The Organic Act of 1916 establishes the National Park Service within the U.S. Department of the Interior and defines its purpose as the management and protection of national parks, monuments, and reservations; the Organic Act gives National Park Service the authority to regulate and manage land use planning within the Yosemite National Park. The primary policy plan that guides the National Park Service in protecting and managing the park is the Yosemite National Park General Management Plan (Yosemite Management Plan), which was adopted in 1980.

This long-range plan for the entire park is outlined in five broad goals:

- ▶ reclaim priceless natural beauty,
- ▶ reduce traffic congestion,
- ▶ allow natural processes to prevail,

- reduce crowding, and
- promote visitor understanding and enjoyment.

The administrative actions to achieve these goals are defined by the management objectives in the document. The plan also includes four primary land management zones, which are (1) Natural Zone, (2) Cultural Zone, (3) Development Zone, and (4) Special-Use Zone. Policies specific to each zone are included in the plan.

The proposed action site is located within the Natural Environment subzone of the Natural zone, although the zoning only applies to lands managed by the National Park Service – not to private property such as Camp Wawona. Permitted uses in this subzone include roads and picnicking areas, but developments are to be minimal in this subzone. The project site is also located in the overlay area of the Archaeological subzone, the management emphasis of which is on preservation of the archaeological resources within the subzone.

There are a number of subsidiary implementation plans, also known as management plans, to the Yosemite Management Plan. The following pertain to the project site and the surrounding area:

- Yosemite Valley Plan (2000),
- Yosemite Deer Herd Management Plan (1981),
- Adopted Yosemite Fire Management Plan (1990),
- Draft Yosemite Fire Management Plan EIS (2003),
- Draft Land Protection Plan (1992),
- Yosemite Human/Bear Management Plan (no date),
- Yosemite Vegetation Management Plan (no date),
- Yosemite Valley Geologic Hazards Guidelines (no date),
- Cultural Resources Programmatic Agreement (1999), and
- Resources Management Plan for Yosemite National Park (1993).

Goals, policies, and criteria from these documents that are relevant to the proposed action are listed in Table 4.1-1, Policy Consistency. The Yosemite Valley Plan is further described below.

Yosemite Valley Plan

The Yosemite Valley Plan aims to help carry out the goals in the Yosemite Management Plan and, in the process, to restore Yosemite Valley's natural processes. While the project site, which is located in Section 35, is not within the Yosemite Valley, one element of the Yosemite Management Plan addressed the possible relocation of some employee housing to the Wawona area – a potential action that is concerned in the cumulative impacts analyses presented in Chapter 5 of this document.

The Final Yosemite Valley Plan/Supplemental Environmental Impact Statement was developed with these specific purposes in mind:

- ▶ restore, protect, and enhance the natural and cultural resources of Yosemite Valley;
- ▶ provide opportunities for high quality, resource-based visitor experiences;
- ▶ reduce traffic congestion; and
- ▶ provide effective park operations, including employee housing, to meet the mission of the National Park Service.

MERCED WILD AND SCENIC RIVER COMPREHENSIVE MANAGEMENT PLAN

The Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement (Merced River Plan) was prepared and approved in 2000 by the National Park Service for the portion of the Merced River corridor within the Yosemite National Park, including the South Fork Merced River through the Wawona area. The final Merced River Plan, which incorporated clarifications to management zones and other issues, was adopted in 2001.

The Merced River Plan derives its authority from the 1968 Wild and Scenic Rivers Act, as amended, and therefore does not tier directly off of the Yosemite Management Plan. Instead, it is a companion document to the Yosemite Management Plan, and the two plans complement each other. Development within the Merced Wild and Scenic River corridor must be consistent with the policies set by the Yosemite Management Plan and the Merced River Plan (NPS 2000a and NPS 2000b).

The Merced River Plan includes the following five management goals that are consistent with the Yosemite Management Plan:

- ▶ protect and enhance river-related natural resources,
- ▶ protect and restore natural hydrological and geomorphic processes,
- ▶ protect and enhance river-related cultural resources,
- ▶ provide diverse river-related recreational and educational experiences, and
- ▶ provide appropriate land uses.

As shown in Figure 4.1-2, the Merced River Plan applies management zoning and a River Protection Overlay (RPO) buffer area within the river corridor. The RPO is intended to apply the requirements of the Wild and Scenic River Act at a higher standard than that of the underlying management zones. Public lands surrounding the project site, including the National Park Service land that would be exchanged under the proposed action, are zoned Discovery (2B), Camping (3A), and Park Operations and Administration (3C). The RPO and management zones do not apply to private properties within Section 35, such as the Seventh-day Adventists property, in recognition of private property rights.

The Discovery zone, which is characterized by relatively quiet natural areas where visitor encounters are low to moderate, is managed with low tolerance for resource degradation from visitor use. Permitted facilities include roads and trails, restroom facilities, signs, and utilities.

Uses that may not occur within the Discovery zone include campgrounds and lodging, picnic facilities, food services, and interpretive centers.

The Camping zone would provide visitors with opportunities for both vehicle-access camping and walk-in camping. Permitted uses include designated campsites, roads, bridges, parking areas, trails, utilities, interpretive facilities such as amphitheaters, and signs. Uses that may not occur within the camping zone include lodging, administrative offices and maintenance facilities not associated with camping, food services, and interpretive centers.

The Park Operations and Administration zone provides for locations for facilities that support the efficient function of the park. Visitor use and experience within this zone would be limited, and this zone would be managed for high tolerance for resource impacts in localized areas. Permitted uses include parking/transit center, roads, administrative and visitor support facilities, signs, and bridges. Campgrounds and lodging are not allowed in this zone.

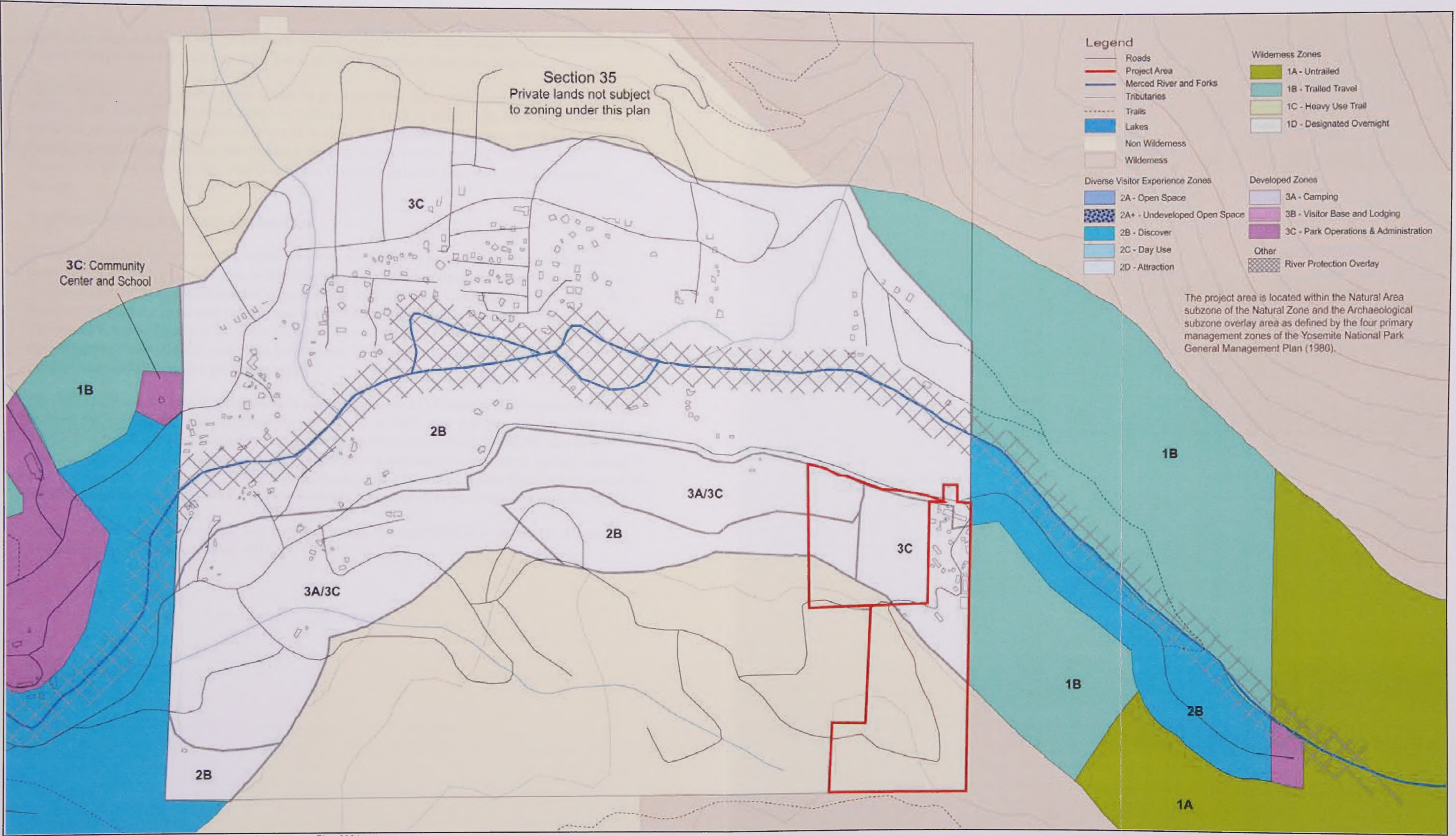
The 18 acres of land being considered for exchange to the Seventh-day Adventists under the proposed action are within the Park Operations and Administration zone, but are outside the RPO (see Figure 4.1-2). A further discussion of the Merced Wild and Scenic River Plan and an analysis of the proposed action relative to that plan are provided in Chapter 6.

COUNTY OF MARIPOSA GENERAL PLAN

The general plan is the land use “constitution” of a local land use jurisdiction, and it provides the planning framework for a city’s or a county’s long-term physical development. The general plan preparation process involves extensive public input and often involves coordination with multiple agencies.

Land use planning in Mariposa County is currently directed by the Mariposa County General Plan, which was adopted in 1981 and periodically amended since that time. The 1981 general plan contains guiding principles, goals, and policies that guide growth, development, and services in the areas within the County jurisdiction. Uses on federal lands are controlled by federal plans and regulations, such as the Yosemite General Management Plan and the Merced River Plan, as described above.

The Mariposa County General Plan is divided into elements based on subject (e.g., housing element) and geography (i.e., area plans). An area plan is an element of the General Plan adopted by the Board of Supervisors to provide goals, policies, and implementation measures for a community, town, or other special planning areas such as the Town of Wawona. Although private land within Wawona is under the joint jurisdiction of the County and the National Park Service through the 1987 MOU, that jurisdiction is implemented within the WTPASP. The County’s area plans address issues and development policies in greater detail than the general plan. Area plans developed as a part of the General Plan address specific issues and opportunities for the defined planning area. Area plans may include any number of elements to address General Plan programs in greater detail than in the County-wide context. Area plans may also address issues other than those identified in the County-wide setting.



Source: Merced Wild and Scenic River Comprehensive Management Plan 2001

Seventh-Day Adventist Property and National Park Service Land Proposed for Exchange

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FIGURE 4.1-2

Each area plan is considered an element of the General Plan, must therefore be consistent with it, and is implemented with the same force of law (County of Mariposa 2003a).

The County is in the process of updating its general plan. The draft version of the County of Mariposa General Plan Update 2003 was released on April 4, 2003. The final adoption of the updated general plan is expected to occur in the spring of 2004; however, the Mariposa County Board of Supervisors has begun a lengthy public review period that may result in changes to and a delay in the adoption of the County's general plan (County of Mariposa 2003b).

WAWONA TOWN PLANNING AREA SPECIFIC PLAN

The Specific Plan for Section 35, which includes the project site and the surrounding area, is being updated on a parallel track to the County's general plan update process. The WTPASP is unique in that its implementation is carried out jointly by the County and the National Park Service due to the mixture of private and public lands within the boundaries of the Yosemite National Park (see Section 2.1). The Wawona Town Planning Advisory Committee is currently updating the Town Plan to provide a policy base for the existing development regulations and programs pertaining to the planning area.

The WTPASP was originally adopted as a part of the County's General Plan implementation and the MOU with the National Park Service signed in 1987, and was amended in 1990 and 1991. The WTPASPS is also co-signed and recognized by the National Park Service as a planning document for private lands within the joint planning area managed by the National Park Service and the County. Policies in the forthcoming Wawona Town Plan (WTP) would be implemented through the WTPASP, which would be updated to be consistent with the WTP.

As noted above, Camp Wawona does not conform to the approved uses within the Mountain Residential land use designation of the WTPASP.

4.2 AIR QUALITY

This section summarizes existing air quality conditions in the project vicinity. The information presented in this section is based on a review of applicable documents, plans, and policies related to air quality.

4.2.1 ENVIRONMENTAL SETTING

Yosemite National Park is classified as a mandatory Class I area under the Federal Clean Air Act (FCAA). The Class I designation is intended to protect the air quality of Yosemite National Park by providing the highest degree of protection, and by permitting only a small amount of additional air pollution. Camp Wawona is located in the Mountain Counties Air Basin (MCAB) of California, an area comprising Plumas, Sierra, Nevada, Placer (middle portion), El Dorado (western portion), Amador, Calaveras, Tuolumne, and Mariposa counties. The MCAB lies along the Sierra Nevada mountain range, close to or contiguous with the California/Nevada border, and covers an area of roughly 11,000 square miles. Throughout the MCAB, the topography is highly variable, and includes rugged mountain peaks and valleys with extreme slopes and differences in altitude in the Sierra Nevada, as well as rolling foothills to the west of the Sierra Nevada crest.

CAMP WAWONA

The ongoing use of Camp Wawona involves the use of cars and busses to transport campers to and from the camp. Because Forest Drive provides the only paved access to the camp, all camp-related travel occurs along this public road. These vehicles emit air pollutants that can affect sensitive receptors, including residences located along Forest Drive and regular staff and transient occupants of Camp Wawona. These existing emissions are part of the baseline air quality conditions in this portion of Mariposa County.

REGIONAL CLIMATE AND ATMOSPHERIC CONDITIONS

The general climate of the MCAB varies considerably with elevation and proximity to the Sierra Nevada ridge. The complex terrain features of the basin make it possible for various climates to exist in relatively close proximity. The pattern of mountains and hills causes a wide variation in rainfall, temperature, and localized winds throughout the basin. Temperature variations have an important influence on basin wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry.

The Sierra Nevada generally receives large amounts of precipitation from storms moving in from the Pacific in the winter, with lighter amounts from intermittent “monsoonal” moisture flows from the south and cumulus buildup in the summer. Precipitation levels are high in the highest mountain elevations, but decline rapidly toward the western portion of the basin. Because of the complex geography of the area, precipitation totals can vary widely within relatively small areas due to rain shadow effects. Winter temperatures in the mountains can be below freezing for weeks at a time, and substantial depths of snow can accumulate, but in the

western foothills, winter temperatures usually dip below freezing only at night and precipitation is mixed as rain or light snow. In the summer, temperatures in the mountains are mild, with daytime peaks in the 70s to low 80s °F, with lower elevations, including Camp Wawona, occasionally seeing temperatures in the upper 90s °F.

METEOROLOGICAL INFLUENCES ON AIR QUALITY

Regional flow patterns have an effect on air quality patterns by directing pollutants downwind of polluting sources. Localized meteorological conditions, such as light winds and shallow vertical mixing, and topographical features, such as surrounding mountain ranges, create areas of high pollutant concentrations by hindering dispersal. An inversion layer is produced when a layer of warm air traps cooler air close to the ground. Such temperature inversions hamper dispersion by creating a “ceiling” that traps air pollutants near the ground.

The topography and meteorology of the MCAB combine such that local conditions predominate in determining the effect of emissions in the basin. Regional airflows are affected by the mountains and hills, which direct surface air flows, cause shallow vertical mixing, and create areas of high pollutant concentrations by hindering dispersion. Inversion layers, where warm air overlays cooler air, frequently occur in small valleys and trap pollutants close to the ground. In the winter, these conditions can lead to carbon monoxide (CO) “hotspots” along heavily traveled roads and at busy intersections. During summer’s longer daylight hours, stagnant air, high temperatures, and plentiful sunshine provide the conditions and energy for the photochemical reaction between reactive organic gasses (ROG) and oxides of nitrogen (NO_x) that results in the formation of ozone (O₃).

EFFECTS OF AIR POLLUTANTS

Various air pollutants can cause adverse changes to human health, depending on the nature of the pollutant and the level and duration of exposure. Table 4.2-1 lists each of the most common air pollutants, the major pollutant sources, and a summary of the potential health risks.

Ozone

Ozone is a colorless, odorless gas that is present in the troposphere in concentrations of a few tenths of a part per million (ppm) or less. Ozone is not usually emitted directly by pollutant-generating sources. It is created by atmospheric reactions between organic compounds (such as solvents and unburned fuels) and oxides of nitrogen (a product of combustion processes) in the presence of sunlight. Since ozone is created over time by reactions between NO_x and ROG that is emitted by hundreds of sources in a geographical area, it tends to be higher downwind of the primary source areas. Ozone is treated as both a secondary pollutant (meaning that it is formed in the atmosphere from other pollutants) and a regional pollutant (because there are not ozone “hot spots” but, rather, broad geographic areas in which elevated ozone levels can be found). Peak ozone concentrations typically occur during the summer months, when long days allow the chemical reactions to take place over a longer period of time.

**Table 4.2-1
Common Air Pollutants**

Pollutant	Major Sources	Related Health and Environmental Effects
ozone (O ₃) Ground-level ozone is the principal component of smog.	Formed by a chemical reaction of pollutants (ROG and NO _x) in the presence of sunlight; motor vehicles are major sources of ROG and NO _x	▶ Respiratory irritant ▶ Potentially toxic to plants ▶ Corrodes rubber, paint
suspended particulate matter (10 microns, or less, in diameter) (PM ₁₀)	Combustion of wood, diesel and other fuels, industrial processes, and ground-disturbing activities (e.g., construction and agricultural operations)	▶ Respiratory irritant ▶ Obscures visibility ▶ Corrodes metals
carbon monoxide (CO) Typically considered a local pollutant of concern.	Product of the incomplete combustion of petroleum fuels in motor vehicles; localized concentrations of concern are generally associated with areas of high traffic density occurring during peak hour traffic conditions	▶ Reduces ability of blood to transport oxygen to body cells and tissue ▶ Aggravates cardiovascular disease ▶ Impairs perception and mental processes ▶ Fatal at high concentrations
nitrogen dioxide (NO ₂) Precursor of ground-level ozone and acid rain.	Combustion of fuels; motor vehicles and power plants are primary contributors	▶ Respiratory irritant ▶ Toxic to plants ▶ Reduces visibility
sulfur dioxide (SO ₂) Precursor of acid rain.	Coal burning power plants, metal smelters, industrial boilers, oil refineries	▶ Respiratory irritant ▶ Corrodes metal and stone ▶ Damages textiles ▶ Toxic to plants
lead (Pb)	Smelters (metal refineries; manufacture of lead storage batteries)	▶ Damage to nervous system, blood, and kidneys ▶ Harmful to wildlife
reactive organic gases (ROG) Precursor of ground-level ozone.	Combustion of fuels; petroleum transfer and storage; manufacture and use of solvents, paints, and adhesives	▶ Potential carcinogen (e.g., benzene) ▶ Potentially toxic to plants and animals
Source: EPA 2001, Nadakavukaren 1995		

Short-term exposure to ozone, a strongly oxidizing form of oxygen, results in injury and damage to the lung, decreases in pulmonary function, and impairment of immune mechanisms. These changes have been implicated in the development of chronic lung disease as the result of longer-term exposure. Symptoms of ozone irritation include shortness of breath, chest pain when inhaling deeply, wheezing, and coughing. Children and persons with pre-existing respiratory disease (e.g., asthma, chronic bronchitis, emphysema) are at greater risk. In addition, effects on vegetation have been documented at concentrations below the state standards.

Fine Particulate Matter (PM)

Particulate matter (PM) that can reach the lungs through normal respiration has an aerodynamic diameter of 10 micrometers or less, and is commonly referred to as PM₁₀. PM₁₀ consists of particulate matter directly emitted into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by condensation and/or transformation of sulfur dioxide and reactive organic gases (EPA 2002). PM_{2.5} includes a subgroup of finer particles that have an aerodynamic diameter of 2.5 micrometers or less (California Air Resources Board 2003).

The adverse health effects associated with respirable particulate matter depend on the specific composition of the particulate matter. For example, adverse health effects may be associated with metals, polycyclic aromatic hydrocarbons, and other toxic substances absorbed by fine particulate matter, which is referred to as the “piggybacking” effect, or with fine dust particles of silica or asbestos. Generally, adverse health effects associated with respirable particulate matter may result from both short-term and long-term exposure to elevated respirable particulate matter concentrations and may include respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, alterations to the immune system, carcinogenesis, and premature death (EPA 2003). PM_{2.5} poses an increased health risk because these smaller particles can be deposited deep in the lungs and may contain substances that are particularly harmful to human health.

Carbon Monoxide

Carbon monoxide (CO) is a product of incomplete combustion, principally from automobiles and other mobile sources of pollution. Industrial sources typically contribute less than 10% to ambient CO levels. Peak CO levels are localized near areas of high motor vehicle traffic, and occur typically during winter months when calm climatic conditions are common.

CO enters the bloodstream through the lungs by combining with hemoglobin, the substance that normally carries oxygen to the cells. CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. The symptoms of CO exposure at higher levels include dizziness, headaches, slowed reactions, and fatigue. CO exposure is especially harmful to people with heart or lung disease, or anemia.

Nitrogen Dioxide

Nitrogen dioxide (NO₂) is a natural trace constituent of the troposphere. The major anthropogenic sources of NO₂ are combustion devices, such as boilers, gas turbines, and stationary and mobile reciprocating internal combustion engines. Combustion devices primarily emit nitric oxide (NO), which reacts in the atmosphere to form NO₂. The combined emissions of NO and NO₂ are referred to as oxides of nitrogen (NO_x), which are reported as equivalent NO₂. Since NO₂ reacts with ROG to form ozone, and is also generated by the

reactions that form photochemical smog, the concentrations of NO₂ in a particular geographical area may not be representative of the local NO_x emission sources. NO₂ concentrations tend to be higher close to major source areas and lower in downwind areas due to the symbiotic relationship that exists between O₃ and NO₂ levels.

Inhalation is the most common route of exposure to NO₂. Since NO₂ has relatively low solubility in water, its principal site of toxicity is the lower respiratory tract. The severity of the health effects depends mainly on the concentration inhaled and less on the duration of exposure. An individual exposed to high levels of NO₂ may experience a variety of acute symptoms, including coughing, difficulty breathing, vomiting, headache, and eye irritation during or shortly after exposure. After an interval of a few hours (usually 4 to 12 hours), an exposed individual may experience chemical pneumonitis or pulmonary edema with rapid breathing, breathing difficulties, cough, hemoptysis, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO₂ intoxication after acute exposure has on occasion been linked with prolonged respiratory impairment with symptoms of chronic bronchitis and with decreased lung function.

Sulfur Dioxide

Sulfur dioxide (SO₂) is produced by the combustion of any fuel (such as coal) containing sulfur. The major health effects of SO₂ are on the upper respiratory tract. Only a small portion of inhaled SO₂ penetrates the lower respiratory tract because it is water-soluble. Sulfur dioxide is a respiratory irritant with bronchoconstriction occurring with inhalation of SO₂ at 5 ppm or more. On contact with the moist mucous membranes, sulfur dioxide produces sulfurous acid, which is a direct irritant. Concentration rather than duration of the exposure is the more important determinant of respiratory effects. High concentrations of SO₂ may cause edema of the lungs or glottis and can produce respiratory paralysis.

4.2.2 REGULATORY FRAMEWORK

FEDERAL AIR QUALITY MANAGEMENT

At the federal level, the Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. The EPA's air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990.

The FCAA required the EPA to establish National Ambient Air Quality Standards (NAAQS), and also to establish deadlines for the attainment of these standards. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions.

The FCAA Amendments of 1990 made major changes in deadlines for attaining NAAQS and in the actions required of areas of the nation that exceeded these standards. Under the FCAA,

state and local agencies in areas that exceed the NAAQS are required to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the EPA. States may also establish their own standards, provided that state standards are at least as stringent as the NAAQS. California has established California Ambient Air Quality Standards (CAAQS) pursuant to Health and Safety Code §39606(b) and its predecessor statutes. The NAAQS and CAAQS are presented in Table 4.2-2.

The FCAA requires an air quality control plan referred to as the State Implementation Plan (SIP). The SIP contains the strategies and control measures California will use to attain the NAAQS. The EPA approved the California SIP in September 1996. The SIP became effective on February 7, 1997. Pursuant to the recently adopted SIP, the State will strive for compliance with federal O₃ standards by year 2010 through provisions that would seek to reduce pollution using a combination of performance standards and market-based programs to speed the introduction of cleaner technology and expand compliance flexibility (California Air Resources Board 2002).

**Table 4.2-2
Air Pollutant Standards**

Pollutant	Averaging Time	California Standards ^{1,3}	National Standards ²	
			Primary ^{3,4}	Secondary ^{3,5}
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	0.12 ppm (235 µg/m ³) ⁶	Same as Primary Standard
	8 Hour	-	0.08 ppm (157 µg/m ³) ⁶	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	-
	8 Hour	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	
	8 Hour(Lake Tahoe)	6 ppm (7 mg/m ³)	-	
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	-	0.053 ppm (100 µg/m ³)	Same as Primary Standard
	1 Hour	0.25 ppm (470 µg/m ³)	-	
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	-	0.030 ppm (80 µg/m ³)	-
	24 Hour	0.04 ppm (105 µg/m ³)	0.14 ppm (365 µg/m ³)	-
	3 Hour	-	-	0.5 ppm (1300 µg/m ³)
	1 Hour	0.25 ppm (655 µg/m ³)	-	-
Respirable Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³ *	50 µg/m ³ ⁶	Same as Primary Standard
	24 Hour	50 µg/m ³	150 µg/m ³ ⁶	
Fine Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³ *	15 µg/m ³	Same as Primary Standard
	24 Hour	No Separate State Standard	65 µg/m ³	
Lead ⁷	30 Day Average	1.5 µg/m ³		-
	Calendar Quarter	-	1.5 µg/m ³	Same as Primary Standard

**Table 4.2-2
Air Pollutant Standards**

Pollutant	Averaging Time	California Standards ^{1,3}	National Standards ²	
			Primary ^{3,4}	Secondary ^{3,5}
Sulfates	24 Hour	25 µg/m ³	No Federal Standards	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)		
Vinyl Chloride ⁷	24 Hour	0.01 ppm (26 µg/m ³)		
Visibility-Reducing Particle Matter	8 Hour	Extinction coefficient of 0.23 per kilometer—visibility of 10 miles or more (0.07—30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.		

* On June 20, 2002, the California Air Resources Board (CARB) approved staff's recommendation to revise the PM₁₀ annual average standard to 20 µg/m³ and to establish an annual average standard for PM_{2.5} of 12 µg/m³. These standards took effect on July 5, 2003. Information regarding these revisions can be found at <http://www.arb.ca.gov/research/aaqs/std-rs.htm>.

¹ California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM₁₀ and PM_{2.5}), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

² National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hr concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24 hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. For PM_{2.5}, the 24 hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.

³ Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 °C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 °C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

⁴ National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

⁵ National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

⁶ New federal 8 hour ozone and fine particulate matter standards were promulgated by the EPA on July 18, 1997. Contact the EPA for further clarification and current federal policies.

⁷ The CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: CARB 2003

STATE OF CALIFORNIA AIR QUALITY MANAGEMENT

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of state and local air pollution control programs and for implementing the California Clean Air Act (CCAA) of 1988.

The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS by the earliest practical date. The CCAA mandates that districts focus particular attention on reducing emissions from transportation and area-wide emission sources, and provides districts with new authority to regulate indirect sources of air pollution. Each district plan is to achieve a 5% annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. Air districts in violation of CAAQS are required to prepare an Air Quality Attainment Plan (AQAP) that includes measures for attaining the CCAA mandates.

REGIONAL AIR QUALITY MANAGEMENT

The project site is located in Mariposa County, which is located within the southern portion of the MCAB. The Mountain Counties Air Pollution Control District (MCAPCD) is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the MCAB. The responsibilities of the MCAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the FCAA and the CCAA.

ATTAINMENT STATUS DESIGNATIONS

As discussed above, the CARB is required to designate areas of the state as attainment, nonattainment, or unclassified for CAAQS, in accordance with the CCAA. An "Attainment" designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A "Nonattainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An "Unclassified" designation signifies that data do not support assignment of either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly strict control requirements mandated for each.

The EPA designates areas for O₃, CO, and NO₂ as: "Does not meet the primary standards," "Cannot be classified," or "Better than national standards." For SO₂, areas are designated as "Does not meet the primary standards," "Does not meet the secondary standards," "Cannot be classified," or "Better than national standards." In 1991, new "Nonattainment" designations were assigned to areas that had previously been classified as Group I, II, or III based on the likelihood that they would violate the national PM₁₀ standards. All other areas are designated "Unclassified."

Mariposa County is designated non-attainment for state ozone standards and the portion of Mariposa County in which Yosemite National Park is located is designated non-attainment for state PM₁₀ standards. The attainment status designations for the recently adopted PM_{2.5} NAAQS have not yet been determined.

AMBIENT AIR QUALITY MONITORING

Air pollutant concentrations are measured at several monitoring stations in Mariposa County. Monitoring stations within Yosemite National Park are the closest stations to the proposed action site with sufficient data to meet EPA and/or CARB criteria for quality assurance. Table 4.2-3 provides a summary of the air quality monitoring data obtained from these stations for the past three years of available data (2000-2002). As indicated in Table 4.2-3, state and federal standards for O_3 , as well as the state and federal standards for PM_{10} , have been exceeded on several occasions over the past three years of available data.

Table 4.2-3
Annual Air Quality Monitoring Data

	2000	2001	2002
OZONE (O_3)			
Yosemite National Park – Turtleback Dome Air Quality Monitoring Station			
Maximum Concentration (ppm - 1-hr/8-hr avg.)	0.12/0.10	0.11/0.10	0.11/0.10
Number of Days State Standard Exceeded	3	3	15
Number of Days Federal 1-hr/8-hr Standard Exceeded	0/6	0/4	0/24
SUSPENDED PARTICULATE (PM_{10})			
Yosemite Village – Visitor Center Air Quality Monitoring Station			
Maximum Concentration ($\mu g/m^3$)	98	312	76
Number of Days State Standard Exceeded (Measured/Calculated)	3/9	8/48	6/36
Number of Days Federal Standard Exceeded (Measured/Calculated)	0/0	1/6	0/0
The EPA is phasing out and replacing the previous 1-hour primary ozone standard (health-based) with a new 8-hour standard. The Federal 1-hour ozone standard (0.12 ppm) will not be revoked in a given area until that area has achieved 3 consecutive years of air quality data meeting the 1-hour standard. The EPA has recently revised the primary (health-based) and secondary (welfare-based) PM standards by adding a new annual $PM_{2.5}$ standard set at 15 micrograms per cubic meter ($\mu g/m^3$) and a new 24-hour $PM_{2.5}$ standard set at 65 $\mu g/m^3$. Rules and standards pertaining to $PM_{2.5}$ monitoring are currently being developed. As a result, $PM_{2.5}$ monitoring data is not available for the periods indicated. Measured days are those days that an actual measurement was greater than the applicable standard. Measurements are typically collected every six days. Calculated days are the estimated number of days that a measurement would have been greater than applicable standards had measurements been collected daily. The number of days above the standard is not necessarily the number of violations of the standard for the year. ppm = parts per million by volume $\mu g/m^3$ = micrograms per cubic meter — = No Data Available			
Source: California Air Resources Board 2002. Air Quality Data (ADAM) 2000 through 2002.			

SENSITIVE LAND USES AND RECEPTORS

One of the most important reasons for air quality regulations and standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed “sensitive receptors.” The term “sensitive receptors” refers to specific

population groups, as well as the land uses where they would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses are residences, schools, playgrounds, childcare centers, retirement homes or convalescent homes, hospitals, and clinics.

4.3 NOISE

This section includes basic information about noise, and describes existing conditions in and around Camp Wawona. Information gathered during an ambient noise survey conducted in July 2003 is also provided.

4.3.1 ENVIRONMENTAL SETTING

DEFINITION OF NOISE

Noise is often defined as unpleasant and unwanted sound. Whether a sound is considered unpleasant depends on the individual who hears the sound and the setting and circumstance under which the sound is heard. While performing certain tasks, people expect and, as such, accept certain sounds that are considered unpleasant under other circumstances. For example, if a person works in an office, sounds from printers, copiers, telephones, and keyboards are generally acceptable and not considered unduly unpleasant or unwanted. By comparison, when resting or relaxing, these same sounds may be intolerable.

Sounds found desirable during times of rest and relaxation are referred to as natural quiet and include natural, outdoor ambient sounds without the intrusion of human-caused sounds. Natural sounds throughout Yosemite National Park—including waterfalls, flowing water, animals, and rustling leaves—are not considered noise. The enjoyment of natural sounds along the river contributes to the Yosemite visitor's experience, and natural quiet can be essential for some individuals to achieve a feeling of peace and solitude. Noise within the park results from human-made and mechanical sources, including motor vehicles, generators, aircraft, and human activities such as talking and shouting.

Sound is a mechanical form of radiant energy transmitted by pressure waves in the air. It is characterized by two parameters: amplitude (loudness) and frequency (tone).

Amplitude

Amplitude is the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude is measured in decibels (dB) on a logarithmic scale. For example, a 10 dB sound is 10 times the pressure difference of a 0 dB sound; a 20 dB sound is 100 times the pressure difference of a 0 dB sound. Another feature of the decibel scale is the way in which sound amplitudes from multiple sources add together. A 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). Amplitude is interpreted by the ear as corresponding to different degrees of loudness. Laboratory measurements correlate a 10 dB increase in amplitude with a perceived doubling of loudness and establish a 3 dB change in amplitude as the minimum audible difference perceptible to the average person.

Frequency

Frequency is the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz (Hz). One Hz equals one cycle per second.

Human Response to Sound

The human ear is not equally sensitive to sound of different frequencies. Sound waves below 16 Hz or above 20,000 Hz cannot be heard at all, and the ear is more sensitive to sound in the higher portion of this range than in the lower. To approximate human sensitivity to sound, environmental sound is usually measured in “A-weighted” decibels (dBA). “A-weighted” decibels are intended to reflect the greater acuity of the human ear to sounds at certain frequencies. To describe a sound containing a wide range of frequencies in a manner representative of the human ear’s response, it is necessary to reduce the effects of the low and high frequencies with respect to the medium frequencies more easily perceived by humans. The resultant sound level is said to be “A-weighted” and is denoted as dBA. Nearly all environmental noise analysis is conducted using dBA measurements. On this scale, the normal range of human hearing extends from about 10 dBA to about 140 dBA. Listed in Figure 4.3-1 are several examples of the noise levels, measured in dBA, associated with common situations.

NOISE DESCRIPTORS

The intensity of environmental noise fluctuates over time, and several descriptors of time-averaged noise levels are used. Three most commonly used are L_{eq} , L_{dn} , CNEL, and SEL. The energy equivalent noise level, L_{eq} , is a measure of the average energy content (intensity) of noise over any given period of time. Many communities use 24-hour descriptors of noise levels to regulate noise. The day-night average noise level, L_{dn} , is the 24-hour average of the noise intensity, with a 10 dBA “penalty” added for nighttime noise (10:00 PM to 7:00 AM) to account for the greater sensitivity to noise during this period. CNEL, the community equivalent noise level, is similar to L_{dn} , but adds an additional 5 dBA “penalty” to evening noise (7:00 PM to 10:00 PM). The SEL describes a receiver’s cumulative noise exposure from a single impulsive noise event, which is defined as an acoustical event of short duration (0.5 second) and involves a change in sound pressure above some reference value (approximately 40 dB).

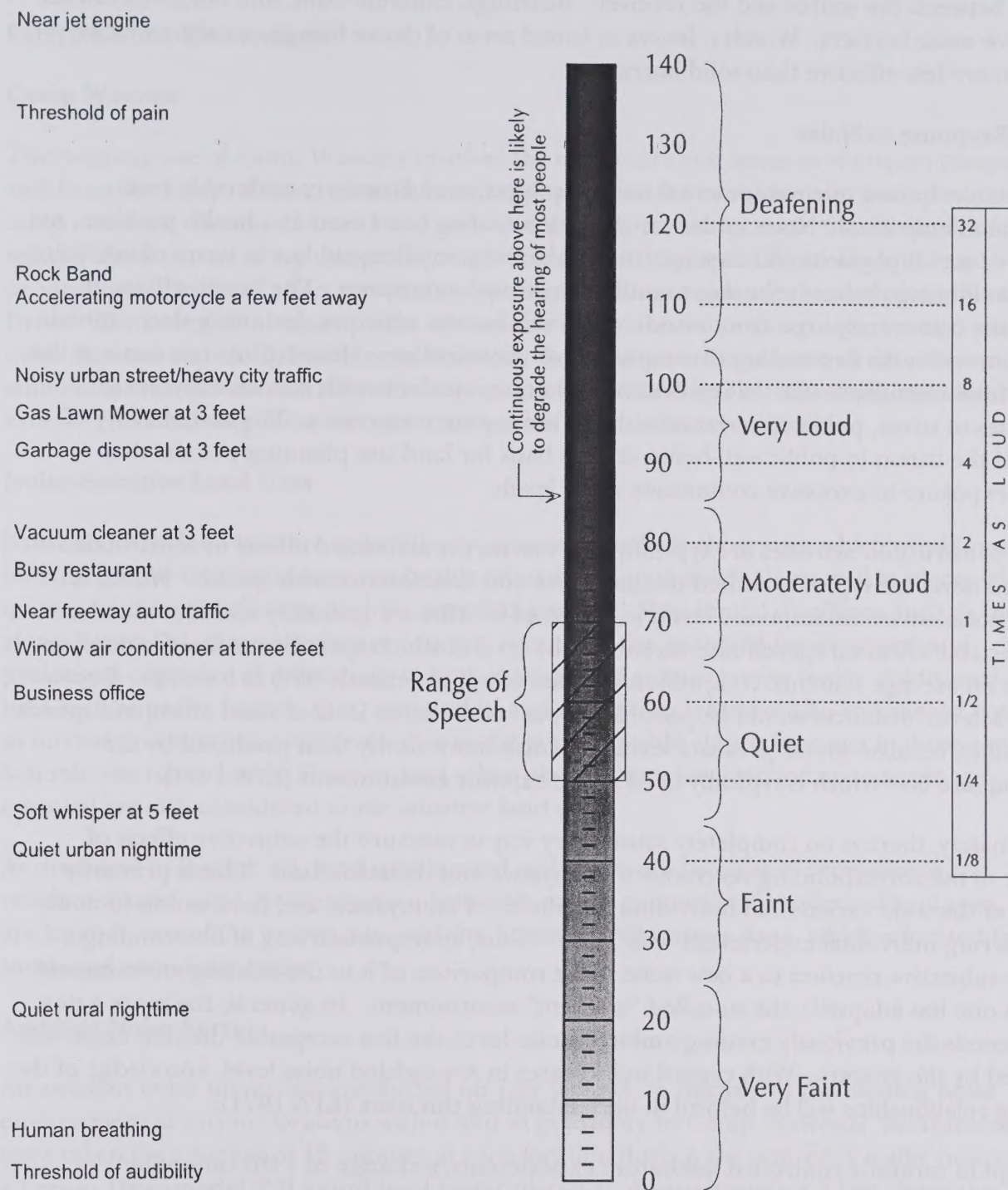
Characteristics of Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates (is reduced) at a rate between 3.0 and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3.0 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate between 6.0 to about 7.5 dBA per doubling of distance.

EXAMPLES

DECIBELS (dB)*

SUBJECTIVE EVALUATIONS



* dB are "average" values as measured on the A-scale of a sound-level meter.

From Concepts in Architectural Acoustics; M. David Egan, McGraw Hill, 1972 and U.S. Department of Housing and Urban Development, Office of Community Planning and Development "The Noise Guidebook".

Source: EDAW 2003

Typical Noise Levels

FIGURE 4.3-1

Sound levels can be reduced by placing barriers between the noise source and the receiver. In general, barriers contribute to decreasing noise levels only when the structure breaks the “line of sight” between the source and the receiver. Buildings, concrete walls, and berms can all act as effective noise barriers. Wooden fences or broad areas of dense foliage can also reduce noise, but are less effective than solid barriers.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks demanding concentration or coordination. Hearing loss can occur at the highest noise intensity levels. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases. The acceptability of noise and the threat to public well-being are the basis for land use planning policies that prevent exposure to excessive community noise levels.

Because construction activities are typically short-term, the associated effects of construction-generated noise are typically limited to annoyance and interference with speech. Within an exterior noise environment, noise levels in excess of 60 dBA are generally considered to have an appreciable effect on speech interference. The level at which speech interference occurs is based on an average sentence comprehension rate of approximately 98% at 5 meters. Greater speaker-listener distances would be possible indoors at the same level of vocal effort and speech intelligibility, because sound pressure levels diminish more slowly than predicted by the inverse square law, which is typically used in the exterior environment (EPA 1971).

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance, and habituation to noise over differing individual experiences with noise. Thus, an important way of determining a person’s subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted: the so-called “ambient” environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by the hearers. With regard to increases in A-weighted noise level, knowledge of the following relationships will be helpful in understanding this issue (EPA 1971):

- ▶ except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans;
- ▶ outside of the laboratory, a 3 dB change is considered a just-perceivable difference;
- ▶ a change in level of at least 5 dB is required before any noticeable change in community response would be expected; and

- ▶ a 10 dB change is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response.

EXISTING NOISE ENVIRONMENT

Camp Wawona

The ongoing use of Camp Wawona involves the use of cars and buses to transport campers to and from the camp. Delivery trucks bringing supplies to the camp are also part of normal camp activities. Because Forest Drive provides the only paved access to the camp, all camp-related travel occurs along this public road. These vehicles, especially trucks and large buses, produce noise that can affect sensitive receptors, including residences located along Forest Drive. The use of an outdoor public address system to announce camp activities also produces noise that can be heard elsewhere in Wawona, depending on the volume of the noise and ambient air conditions that affect the transport of noise in this relatively small, contained valley. These existing noise emissions are part of the baseline conditions.

Noise-Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses which would result in noise exposure that could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings, such as those along Forest Drive, are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are also considered sensitive to increases in exterior noise levels due to the general public desire for quiet in those settings. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

As discussed in Section 4.1, land uses located within the area consist of recreational and residential land uses. Noise-sensitive land uses consist primarily of residential land uses, which are located west of the project site, and the Yosemite Wilderness Area, which is located to the south and east of the camp.

Ambient Noise Survey

An ambient noise survey was conducted on July 9, 2003, to document the existing noise environment at various locations within and in proximity to Camp Wawona. Measurements were taken for a period of 15 minutes at each location during the non-peak traffic hours using a Larson Davis model 820 sound level meter placed at approximately 4.5 feet above the ground surface.

The existing noise environment within the project area is influenced primarily by surface transportation noise emanating from vehicular traffic on area roadways, and outdoor camp activities when it is in operation. Based on the measurements conducted, average daytime

noise levels (in dBA L_{eq}) within the project area are generally in the low 40 dBA level, dependent primarily on distance from nearby roadways. Measurements were also conducted at the existing camp to measure normal camp activities and the operation of a public address system. Average daytime noise levels near the existing campground are in the mid 50 dBA range and noise levels near the public address system range from the low 60 to mid 70 dBA range when it is in operation, depending on how far away from the system's speakers the measurement was taken. The ambient noise measurements taken during this monitoring effort are provided in Table 4.3-1.

**Table 4.3-1
Ambient Noise Survey Measurements**

Number ¹	Date/Time	Noise Level (dBA)			
		L_{eq}	L_{max}	L_{min}	L_{50}
1	7/9/2003 11:15 a.m.-11:30 a.m.	41.4	57.0	35.8	36.6
2	7/9/2003 12:00 p.m.-12:15 p.m.	54.2	115.0	33.6	46.1
3	7/9/2003 public address system – 25 yards	65.4	69.3	61.2	—
4	7/9/2003 public address system – 18 yards	66.7	71.8	61.2	—
5	7/9/2003 public address system – 3 yards	74.3	80.3	66.7	—

¹ Refer to Figure 4.3-1 for location.
Source: EDAW 2003

4.3.2 REGULATORY FRAMEWORK

COUNTY OF MARIPOSA GENERAL PLAN

The Mariposa County General Plan Noise Element (County of Mariposa 1981) contains goals and policies to protect citizens from exposure to excessive noise. The Noise Element establishes standards for various land use categories with respect to transportation and non-transportation noise sources and land use compatibility noise criteria. The land use compatibility criteria provide the basis for decisions on location of land uses in relation to noise sources and for determining noise mitigation requirements. The County of Mariposa identifies noise standards through use of community noise equivalent levels (CNEL), measured in dBA over a 24-hour period. The County of Mariposa thresholds establish different limits for different uses. The County's noise exposure standards for land use compatibility are presented in Table 4.3-2 (County of Mariposa 1981).

Table 4.3-2 County of Mariposa General Plan Land Use Compatibility Noise Levels Shown as dB, L_{dn} or CNEL				
Land Use	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density Single Family, Duplex, Mobile Homes	50 to 60	55 to 70	70 to 75	above 75
Residential – Multiple Family	50 to 65	60 to 70	70 to 75	above 75
Transient Lodging - Motels, Hotels	50 to 65	60 to 70	70 to 80	above 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 to 70	60 to 70	70 to 80	above 80
Auditoriums, Concert Halls, Amphitheatres, Sports Arenas	-	50 to 70	above 65	-
Sports Arena, Outdoor Spectator Sports	-	50 to 75	above 70	-
Playgrounds, Neighborhood Parks	50 to 70	-	67.5 to 75	above 67.5
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 to 75	-	70 to 80	above 80
Office Buildings, Business Commercial and Professional	50 to 70	67.5 to 77.5	above 75	-
Industrial, Manufacturing, Utilities, Agriculture	50 to 75	70 to 80	above 75	-
Normally Acceptable: Specified land use is satisfactory based upon the assumption that any buildings are of normal construction without special noise requirements.				
Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features included in the design.				
Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in this design.				
Clearly Unacceptable: New construction or development clearly should not be undertaken.				
Source: County of Mariposa General Plan, 1981				

The County's General Plan Noise Element also contains several goals, an overall guiding policy and several specific policies for controlling and reducing environmental noise. The following goals and policies are applicable to the proposed action:

Goals

- A: To preserve the quality of life in Mariposa County by preventing and suppressing the intrusion of objectionable levels, frequencies, and time durations of noise by controlling noise at its source.
- B: To provide sufficient information to the decision-making body concerning the community noise environment so that noise may be considered in land use development.
- C: To ensure that new development does not produce noise levels which create an unacceptable noise environment in those existing areas of the county where the noise environment is deemed acceptable, and also in those locations deemed noise sensitive.

- D: When it is determined to be necessary, the County will prepare a Community Noise Exposure Inventory for the communities in Mariposa.
- E: When it is determined to be necessary, the County will monitor the existing and proposed land uses deemed to be “noise sensitive.”

Overall Guiding Policy

To adopt a preventative posture of controlling and regulating, where possible, the source of noise in the county, and to provide for land uses which are compatible with existing noise sources.

Specific Policies

- Policy 1: Ensure compliance with the State law for the proper insulation of new dwellings.
- Policy 2: Ensure compliance with the State law for the proper special noise insulation standards for new multi-family dwellings constructed within the 60 dBA (CNEL or L_{dn}) noise contour.
- Policy 3: Encourage cooperation with the National Forest Service and Bureau of Land Management to reduce noise from off-road vehicles.
- Policy 4: Require cost-effective mitigation measures be taken for all projects which have the potential of emitting noise above 70 dBA (CNEL).
- Policy 5: Work with State agencies, whenever practical, to implement noise reduction programs.
- Policy 6: Further the development of noise exposure contours for State Highways and major County roads when new traffic counts become available.
- Policy 7: Facilitate the preparation of a Community Noise Exposure Inventory, current and projected, which identified the number of persons and residences exposed to various levels of noise throughout the communities of Mariposa County.
- Policy 8: Ensure that the Noise Element remains consistent with the Land Use, Circulation and Housing Elements of the General Plan.

STATE OF CALIFORNIA

Title 24 of the California Code of Regulations establishes standards governing interior noise levels that apply to all new multifamily residential units in California. These standards require that acoustical studies be performed prior to construction at building locations where the existing L_{dn} exceeds 60 dBA. Such acoustical studies are required to establish mitigation measures that will limit maximum L_{dn} levels to 45 dBA in any inhabitable room. Although

there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted an L_{dn} of 45 as an upper limit on interior noise in all residential units.

4.3.1 Environmental Setting

Regional Setting

Camp Wawona is located between approximately 4,100 and 4,400 feet above sea level on the eastern slope of the Sierra Nevada which divides the Mediterranean climate of western California from the Colorado Desert area with higher elevations. Camp Wawona and the Town of Wawona are located within the boundary of the Yosemite National Park, which covers the high peaks of the Sierra Nevada and is abated by extensive public lands managed by the U.S. Forest Service. Camp Wawona lies on the eastern edge of the great high peak of Wawona, which encompasses approximately 200 dwelling units, of which a high percentage are used by seasonal residents.

Camp Wawona is adjacent to the South Fork Merced River. The portion of the South Fork Merced River through the Town of Wawona is designated as the natural habitat of the Wild and Scenic River classification. The Merced River flows from the high mountains of the Sierra Nevada through Yosemite Valley, and down to the San Joaquin Valley where it flows into the San Joaquin River. The South Fork Merced River drains the southern portion of the Yosemite National Park.

Local Setting

Camp Wawona is located at the eastern end of Forest Drive. Forest Drive delineates the northern boundary of Camp Wawona. The South Fork Merced River is located approximately 200 feet south of Forest Drive and the Camp Wawona development. The predominant noise type on the project site is traffic noise from Forest Drive.

4.4 BIOLOGICAL RESOURCES

This section discusses biological resources that occur or have the potential to occur in the Camp Wawona project site or surrounding areas. Information used to prepare this section was obtained by a review of relevant background literature, electronic database searches of the California Department of Fish and Game Natural Diversity Data Base (CNDDDB) and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California, and reconnaissance-level field surveys conducted by EDAW biologists on June 23 and 26, 2003. Background literature reviewed included: an environmental assessment (plants and animals) prepared for the proposed action by biological consultant Michael Skenfield (1993), a Yosemite National Park list of special-status species, a list of special-status species of concern in Mariposa County provided by the United States Fish and Wildlife Service (USFWS—provided in Appendix B), several biological assessments and environmental documents prepared for the management of Yosemite National Park lands, several management plans prepared for Yosemite National Park, and several research reports prepared on species potentially occurring in the area (see Chapter 11 for a complete list of references used).

4.4.1 ENVIRONMENTAL SETTING

REGIONAL SETTING

Camp Wawona is situated between approximately 4,100 and 4,400 feet elevation on the western slope of the Sierra Nevada, which divides the Mediterranean climates of lowland central and northern California from more arid lands to the east. Camp Wawona and the Town of Wawona are located within the boundary of the Yosemite National Park, which covers 761,266 acres of the Sierra Nevada and is abutted by extensive public lands managed by the U.S. Forest Service. Camp Wawona is at the eastern edge of the small rural town of Wawona, which encompasses approximately 260 dwelling units, of which a high percentage are used by seasonal residents.

Camp Wawona is adjacent to the South Fork Merced River. The portion of the South Fork Merced River through the Town of Wawona is designated as Recreational within the Wild and Scenic River classification. The Merced River flows from the headwaters in the high elevations of the Sierra Nevada, through Yosemite Valley, and down to the San Joaquin Valley, where it flows into the San Joaquin River. The South Fork Merced River drains the southern portion of the Yosemite National Park.

LOCAL SETTING

Camp Wawona is situated at the eastern end of Forest Drive. Forest Drive delineates the northern boundary of Camp Wawona. The South Fork Merced River is located approximately 250 feet north of Forest Drive and the Camp Wawona developments. The predominant habitat type on the project site is Sierra mixed conifer forest.

Vegetation

The descriptions of habitat types provided below are adapted from accounts presented in Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and *A Guide to Wildlife Habitats in California* (Mayer 1988). A list of the native and non-native plant species observed during the reconnaissance survey is provided in Appendix C.

Sierra Mixed Coniferous Forest

The majority of the project site is characterized by Sierra mixed conifer forest. This habitat also occurs on the undeveloped land surrounding the camp, including the National Park Service land proposed to be exchanged to the west of Camp Wawona. Sierra mixed coniferous forest generally occurs between 2,500 and 6,000 feet elevation and is composed of both hardwood and conifer (cone-bearing) species. The canopy of Sierra mixed coniferous forest at the project site is composed of Douglas-fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), sugar pine (*P. lambertiana*), incense cedar (*Calocedrus decurrens*), black oak (*Quercus kelloggii*), and canyon live oak (*Q. chrysolepis*). The shrub understory is relatively sparse at the project site but scattered shrubs are occasionally present in openings within Sierra mixed coniferous forest. Shrub species observed include deerbrush (*Ceanothus integerrimus*), whiteleaf manzanita (*Arctostaphylos viscida*), gooseberry (*Ribes* sp.), and mountain misery (*Chamaebatia foliolosa*). Areas that are not heavily used by the camp are covered with a relatively thick layer of leaf litter, which precludes the growth of a substantial herbaceous understory. Scattered herbaceous species observed include wood strawberry (*Fragaria vesca*), squirreltail grass (*Elymus elymoides*), whisker-brush (*Linanthus ciliatus*), trail plant (*Adenocaulon bicolor*), Hartweg's iris (*Iris hartwegii*), and wood rush (*Luzula* spp.). The soils underlying this habitat type are deep and occur over granitic parent material (Skenfield 1993).

Two small drainage swales are located within the Sierra mixed coniferous forest on the 18 acres of National Park Service land proposed for exchange to the Seventh-day Adventists. These features lack a defined bed and bank and are unvegetated. The drainage swales occur within small draws and likely convey snow melt and storm water run-off. However, these areas do not appear to remain wet long enough to support wetland vegetation.

The composition of Sierra mixed coniferous forest located between the river and the project site varies from that found on the project site. In this area, conifers remain dominant in the canopy, but patches of the understory are characterized by a dense cover of herbaceous wetland species, such as giant horsetail (*Equisetum telmateia*), sneezeweed (*Helenium* sp.), and cow-parsnip (*Heracleum lanatum*). These species are likely supported by snow-melt, which collects on the relatively flat floodplain of the South Fork Merced River below the road. Other portions of the understory near the river consist of gravelly substrate and are sparsely vegetated as described below.

Riverine Habitat

Riverine habitat occurs adjacent to the project site on the north, between Forest Drive and the South Fork Merced River. The South Fork Merced River channel is characterized by a cobble bed and bank. A few patches of mountain alder (*Alnus rhombifolia*) and willow (*Salix* sp.) are scattered along the margins of the bank. Outside the river bank, the vegetation is characterized by Sierra mixed coniferous forest. However, the canopy of this habitat is much more open in this area compared to the rest of the project site. The understory is very sparse and composed of scattered herbs.

Non-native Invasive Species

Non-native (exotic, alien, non-indigenous) species are those that have not evolved naturally in a particular area, and have been introduced through human activities, either incidentally or deliberately. Many non-native plant species are not invasive and do not have adverse effects on natural plant and animal communities. Nevertheless, some non-native species have resulted in the conversion of native habitats to a non-native plant community with resultant reduction of native plants and degradation of wildlife habitat.

Overall, the project site contains very few invasive, non-native plant species (see Appendix C). Infestations do not appear to be displacing native habitats at this time because of their small size and limited extent. Only one weed species on the California Invasive Plant Council (Cal-IPC) (formerly the California Exotic Pest Plant Council [CalEPPC]) List A-1 (i.e., most invasive wildland pest plants, widespread), cheatgrass (*Bromus tectorum*), was observed during the survey. This species is primarily of concern in sagebrush, pinyon-juniper woodland, and other desert habitats where it increases the frequency of fire (Cal-IPC 1999). At the project site, cheatgrass grows in the understory of Sierra mixed coniferous forest in disturbed areas near existing developments. This species was observed relatively infrequently, and large infestations were not observed at the project site. Weeds on the project site that are on Cal-IPC List B (i.e., wildland pest plants of lesser invasiveness) include bull thistle (*Cirsium vulgare*), velvet grass (*Holcus lanatus*), and ox-eye daisy (*Leucanthemum vulgare*). Bull thistle appears to be in the early stages of establishment because only a few individuals were observed on the project site. Velvet grass is most invasive in coastal grassland and wetland communities in northern California (Cal-IPC 1999). Ox-eye daisy is a horticultural escapee that becomes most invasive in grassland and coastal scrub habitats. Ripgut brome (*Bromus diandrus*) occurs on the project site and is listed under Cal-IPC's Annual Grasses category. Grasses in this category are widespread in the state and pose significant threats to wildlands, but more information is needed to support the definition of this category. Ripgut brome is of primary concern in coastal dunes, coastal sage scrub, and native grassland habitats.

Wildlife and Fisheries

Coniferous forest provides important habitat for many wildlife species, both resident and migratory. Sierra mixed coniferous habitat, the predominant habitat found at Camp Wawona and on the 18-acre parcel of National Park Service land, supports 355 species of animals

(Verner and Boss 1980). Common resident birds expected in this habitat include white-headed woodpecker, hairy woodpecker, Brewer's blackbird, common raven, mountain chickadee, northern flicker, and Stellar's jay. Common migratory birds expected in this habitat include white-crowned sparrow, Hammond's flycatcher, dark-eyed junco, American robin, and Lincoln's sparrow. Common reptiles typically found in this habitat include western fence lizard and sierra mountain kingsnake. Common mammals that could typically be found in this habitat include California ground squirrel, western gray squirrel, mountain cottontail, striped skunk, and California mule deer. The Yosemite deer herd uses the general Wawona area as a migration corridor as they move to lower elevations in the winter and to higher elevations in the summer, as noted in the *Yosemite Deer Herd Management Plan* (King 1981). In addition, the area has a population of "domesticated" deer that are probably resident rather than migratory (Jim Maddox, via Skenfield 1993). Migratory deer probably infiltrate the resident groups, and some may summer in the Wawona area (Gene Peabody, via Skenfield 1993).

Wildlife expected in the habitat between the river and Forest Drive north of the project site would likely include those more adapted to river resources. Unlike the Sierra mixed coniferous forest on the project site, the understory in this area is characteristic of a more moist environment and includes herbaceous wetland species, such as horsetails. Wildlife species expected in this area include amphibians such as the Sierra newt and the Pacific treefrog.

Most fish currently found in the Merced River and its tributaries in Yosemite National Park have been introduced. Rainbow trout was the only trout species native to the Merced River; introduced rainbow trout have now hybridized with and/or have displaced the original strain. Other non-native species including brook trout, brown trout, and arctic grayling have been introduced into the Merced River drainage. The South Fork Merced River now supports self-sustaining populations of introduced brook, rainbow, and brown trout. Brown trout seem to have become well established and outnumber rainbow trout in many areas (NPS 2000b). No special-status species of fish occur in the project area.

Sensitive Biological Resources

Sensitive biological resources include those identified as such by the California Department of Fish and Game (CDFG), CNPS, the USFWS, and those given recognition as such in local or regional plans, policies, and regulations. In this case, sensitive biological resources include those afforded protection by the National Park Service, the Wawona Town Plan, and the Mariposa County General Plan. Information on sensitive biological resources in the Camp Wawona area was collected from a variety of sources, including electronic databases and published reports referenced above.

Special-Status Species

Special-status species include plants and animals in the following categories:

- ▶ species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA);
- ▶ species considered as candidates for listing as threatened or endangered under ESA or CESA;
- ▶ wildlife species identified by CDFG as California species of special concern and by USFWS as federal species of concern;
- ▶ animals fully protected in California under the California Fish and Game Code;
- ▶ plants listed as endangered or rare under the California Native Plant Protection Act;
- ▶ plants on CNPS lists. The CNPS lists are used by both CDFG and USFWS in their consideration of formal species protection under ESA or CESA; and
- ▶ “park rare” plants identified by the National Park Service.

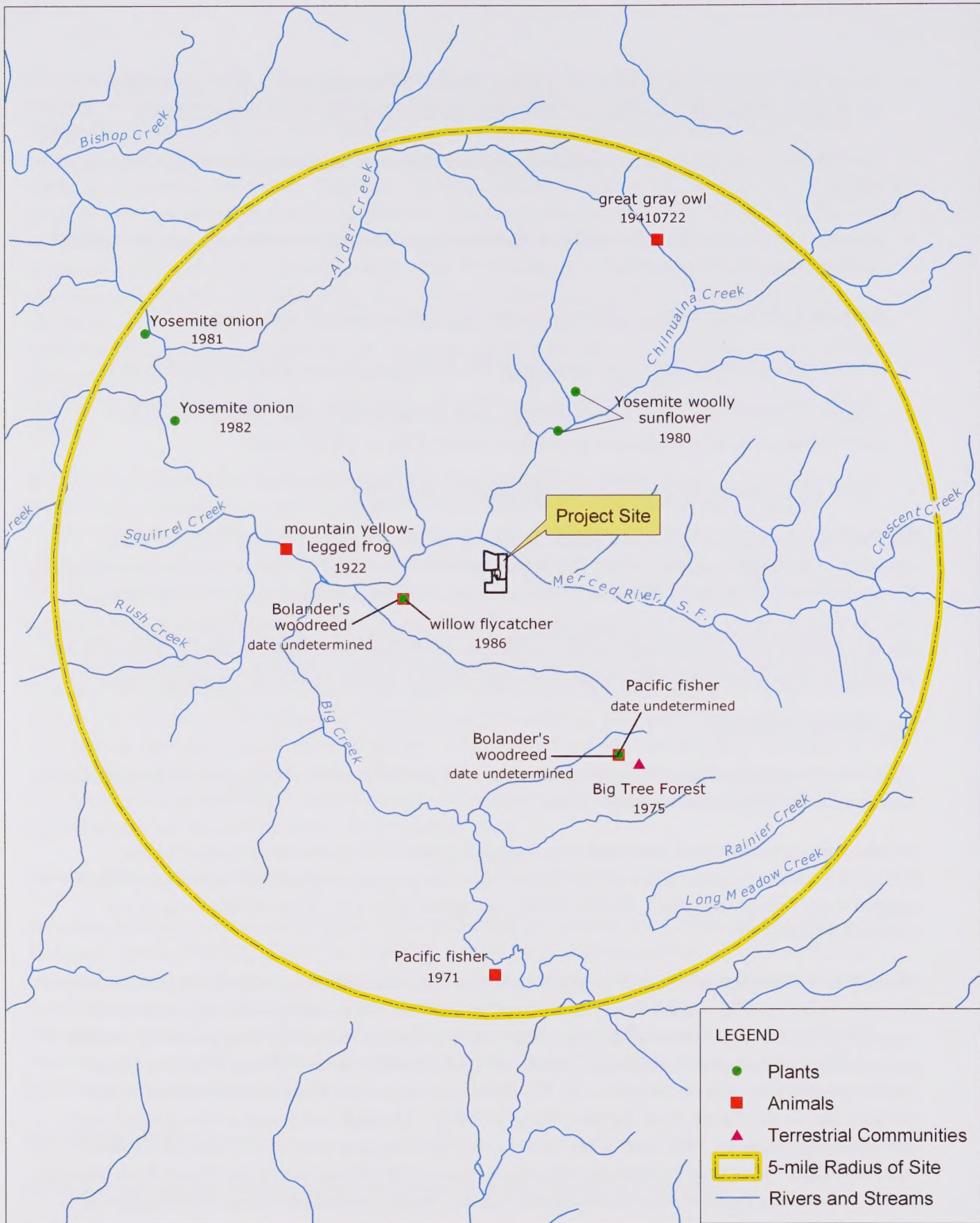
Lists of special-status species potentially occurring in the vicinity of Camp Wawona were developed through searches of the CNDDDB (CNDDDB 2003) and CNPS Inventory (CNPS 2003) for specific information on documented observations of special-status species in the Wawona and Mariposa Grove U.S. Geological Survey (USGS) quadrangles. Special-status species lists in the documents and reports listed above under Methodology were also reviewed. Figure 4.4-1 provides a map of special-status species located within a 5-mile radius of the project area.

Special-Status Wildlife

Table 4.4-1 includes a list of special-status species, their protection status, and the probability of occurrence in the proposed action area.

Wildlife species listed as threatened or endangered that have been documented by the CNDDDB within a 5-mile radius of the Camp Wawona project area include mountain yellow-legged frog, willow flycatcher, Pacific fisher, and great gray owl. Each of these species is described below.

Mountain yellow-legged frog is a species found in mountain habitats, usually at elevations between 6,000 to over 12,000 feet. It is found in streams, lakes, and ponds in a variety of vegetation types. This species has been reduced in numbers, probably due primarily to the introduction of non-native fish into its habitats (NPS 2000b). One sighting of a mountain yellow-legged frog was recorded in the CNDDDB approximately 2 miles downstream of the project site on the South Fork Merced River in 1922. Though not found in the project area, surveys done between 1992 and 1999 have found this frog at a total of 203 sites in Yosemite National Park. Marginal habitat for this species may exist off-site along the South Fork Merced River. However, there is no suitable habitat on-site in the immediate Camp Wawona project area.



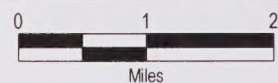
Source: CNDDDB (4/03)

CNDDDB Occurrences

FIGURE 4.4-1

Camp Wawona Redevelopment and Land Exchange EIR

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EDAW

**Table 4.4-1
Special-Status Species with Potential to Occur in the Camp Wawona Area**

Scientific and Common Name	Legal Status*		Habitat Associations	Occurrence in the Survey Area
	Federal	State		
AMPHIBIANS				
<i>Rana boylei</i> Foothill yellow-legged frog	FSC	CSC	Preferred habitat is rocky streams and wet meadows, up to 6,000 feet in elevation.	Not expected to occur. No suitable habitat on the project site.
<i>Rana auroroa draytonii</i> California red-legged frog	FT	CSC	Found in quiet pools in permanent streams in mixed conifer zones and foothills. Prefers riparian deciduous habitat.	Not expected to occur. No suitable habitat on the project site.
<i>Rana muscosa</i> Mountain yellow- legged frog	FSC	CSC FP	Occurs in streams, lakes and ponds in upper montane and riparian forests of Sierra Nevada. Found within a few feet of permanent water.	Not expected to occur. No suitable habitat on the project site.
BIRDS				
<i>Accipiter cooperi</i> Cooper's hawk	--	CSC	Forages in open woodlands and nests in deciduous trees in riparian corridors and canyons. Occurs throughout CA except upper montane areas of the Sierra Nevada.	May occur. Could forage in the project area; however, human disturbance makes nesting unlikely.
<i>Accipiter gentiles</i> Northern Goshawk	FC	CSC	Preferred habitat is moderately dense coniferous forests broken by meadows and other openings, between 5,000 and 9,000 feet elevation.	Low potential to occur. Habitat is suitable, but outside the historic elevational range.
<i>Accipiter striatus</i> Sharp-shinned hawk	--	CSC	Breeds in riparian deciduous, mixed conifer, black oak, ponderosa pine, and Jeffrey pine communities. During winter may be found in a wide variety of communities.	May occur. Habitat is somewhat suitable, although more suitable habitat exists outside the project area.
<i>Contopus cooperi</i> Olive-sided flycatcher	FSC	--	A summer resident that utilizes a wide variety of forest and woodland habitats.	Expected to occur. Suitable habitat present, although not ideal.
<i>Empidonax trailii</i> Little willow flycatcher	FSS	CE	Nests and breeds in low, dense stands of willow (<i>Salix</i> spp.) near wet meadows from central CA to WA. Occurs between 2,000-8,000 feet.	Not expected to occur. No suitable present on or adjacent to the project site.
<i>Otus flammeolus</i> Flammulated owl	FSC	--	Favors open forests of black oak, ponderosa pine, white fir and other trees interspersed with small, shrubby openings. Usually nest at altitudes between 3,000 and 6,000 feet.	Moderate potential of occurrence. Suitable habitat present. No record of nearby sightings.
<i>Picoides albolarvatus</i> White-headed woodpecker	FSC	--	Dwells in mature, mixed coniferous forests with trees of moderate to large girth. Depend on dead trees or snags for nesting sites, but dine on the bark of living trees. Common in altitudes between 3,000 and 8,000 feet.	Expected to occur. Suitable habitat is present, and tolerates human presence well.

Table 4.4-1
Special-Status Species with Potential to Occur in the Camp Wawona Area

Scientific and Common Name	Legal Status*		Habitat Associations	Occurrence in the Survey Area
	Federal	State		
<i>Sphyrapicus ruber</i> Red-breasted sapsucker	FSC	--	Preferred nesting habitats include montane riparian, montane hardwood-conifer, mixed conifer, and red fir, often in close proximity to meadows, clearings, lakes, and slow-moving streams.	May occur. Suitable habitat present, but high quality habitat nearby.
<i>Strix nebulosa</i> Great grey owl	FSS	CE	A resident of mixed conifer and red fir forest communities, in or on edge of meadows. High canopy closure and large diameter snags are required.	Low potential to occur. Could move through area, but no suitable habitat on-site.
<i>Strix occidentalis occidentalis</i> California spotted owl	FSC FSS MNBMC	CSC	Requires large, contiguous areas of old growth montane forest for nest sites. Prefers mixed conifer and Black Oak.	Low potential to occur. Habitat is considered low quality due to relatively young age of forest stand and human disturbance. Past survey results do not show activity in the immediate area.
MAMMALS				
<i>Antrozous pallidus</i> Pallid bat		CSC	Primarily found below 6,000 feet in elevation, in a variety of habitats. Roosts in rock outcrops, caves, and especially hollow trees.	May occur. Suitable habitat occurs both on the project site and on adjacent lands.
<i>Corynorhinus townsendii pallescens</i> Pale Townsend's big-eared bat	FSC	CSC	Lives in broad-leaf forests, oak and conifer woodlands, arid grasslands and deserts, and high-elevation forests and meadows. Roosts in limestone caves, lava tubes, mine tunnels, buildings. Sensitive to human disturbance.	Low potential to occur. Existing human disturbance would discourage use in poorly suited habitat. May forage in the area.
<i>Corynorhinus townsendii townsendii</i> Townsend's big-eared bat	FSC	CSC	Lives in broad-leaf forests, oak and conifer woodlands, arid grasslands and deserts, and high-elevation forests and meadows. Roosts in limestone caves, lava tubes, mine tunnels, buildings. Sensitive to human disturbance.	Low potential to occur. Existing human disturbance would discourage use in poorly suited habitat. May forage in the area
<i>Euderma maculatum</i> Spotted bat	FSC	CSC	Dependent on rock-faced cliffs for roosting habitat. Forages in forest openings, pinyon juniper woodlands, and a variety of meadow and river habitats	May occur. Suitable roosting habitat is minimal. Probably forages in the area.
<i>Eumops perotis</i> (=E. p. californicus) Greater western mastiff-bat	FSC	CSC	Colonial rooster, day-roosts are located in large cracks in exfoliating slabs of granite or sandstone, buildings, and hollow trees. Forages considerable distances from their roosting sites.	Low potential to occur due to poor roosting habitat. Probably forages in the area.

Table 4.4-1
Special-Status Species with Potential to Occur in the Camp Wawona Area

Scientific and Common Name	Legal Status*		Habitat Associations	Occurrence in the Survey Area
	Federal	State		
<i>Martes americana</i> Pine marten	FSS	--	Optimal habitats are mixed evergreen forests with more than 40% crown closure with large trees and snags. Generally found at elevations above 7,600 feet.	Not expected to occur. Suitable habitat is available in the area; however, historic range is at higher elevations.
<i>Martes pennanti pacifica</i> Pacific fisher	FSC	CSC	Occurs in coniferous forests and deciduous-riparian habitats with a high canopy closure. Carnivorous, but may also eat fruit and fungi.	Moderate potential to occur. Habitat is available on- and off-site, it is known to occur in the vicinity, and it may use the forested portions of either parcel.
<i>Myotis ciliolabrum</i> Small-footed myotis (bat)	FSC	--	Prefers open forests and woodlands as well as brushy habitats. Streams, ponds, springs, and stock tanks used for feeding. Seeks cover in caves, buildings, mines, crevices, and occasionally under bridges and under bark.	Moderate potential of occurrence. Marginal roosting and foraging habitat occurs on the project site and on adjacent lands. May forage in the area.
<i>Myotis evotis</i> Long-eared myotis (bat)	FSC	--	Found in nearly all brush, woodland, and forest habitats, but coniferous woodlands and forests preferred. Roosts in buildings, crevices, spaces under bark, and snags.	Moderately high potential of occurrence. Suitable habitat occurs both on the project site and on adjacent lands.
<i>Myotis thysanodes</i> Fringed myotis (bat)	FSC	--	Optimal habitat includes pinyon-juniper, valley foothill hardwood, and hardwood-conifer. Uses open habitats, early successional stages, streams, lakes, and ponds as foraging areas. Roosts in caves, mines, buildings, and crevices.	Low potential of occurrence. Available roosting habitat is poor. May forage in the area.
<i>Myotis volans</i> Long-legged myotis (bat)	FSC	--	Forages in woodland, chaparral, and coastal scrub. Roosts in rock crevices, buildings, under tree bark, in snags, mines, and caves- trees being the most important day and nursery roosts.	Moderate potential of occurrence. Although nearby surveys did not show use in the area, suitable habitat occurs both on the project site and on adjacent lands.
<i>Myotis yumamensis</i> Yuma myotis (bat)	FSC	--	Optimal habitat is open forests and woodlands with sources of water over which to feed. Typically roosts in buildings, mines, caves, crevices, or under bridges.	Moderate potential of occurrence, according to nearby surveys. Marginally suitable habitat available. May forage in the area.
<i>Vulpes vulpes necator</i> Sierra Nevada red fox	FSC FSS	CT	Inhabits a variety of communities from wet meadows to forested areas. Dense vegetation and rocky areas provide cover and den sites.	Not expected to occur. Potential habitat is poor and fox would be discouraged by human disturbance.

Table 4.4-1 Special-Status Species with Potential to Occur in the Camp Wawona Area				
Scientific and Common Name	Legal Status*		Habitat Associations	Occurrence in the Survey Area
	Federal	State		
-- = No listing status *Legal Status Codes: Federal: FE = Endangered; FT = Threatened; FPD = Proposed Delisted pursuant to the Federal Endangered Species Act of 1973, as amended; FSC = considered a Federal Special Concern species by the USFWS; MNBMC = considered a Migratory Nongame Birds of Management Concern by the USFWS.; FSS = considered a U.S. Forest Service Sensitive species. State: CE = Endangered; CT = Threatened; CSC = considered a California Species of Concern by the CDFG; FP = a Fully Protected species that may not be taken without a take permit from the CDFG; CDF = California Department of Forestry sensitive species pursuant to Sect 895.1 (Definitions) of the California Forest Practice Rules. Sources: CDFG 1999a,; USFWS 1999; Zeiner et al. 1988, 1990a, 1990b; Steinhart 1990.				

The **willow flycatcher** breeds in mountain meadows and riparian areas from 2,000-8,000 feet elevation in the Sierra Nevada. Willow flycatcher prefer large shrubby willow habitat along languid streams or moist meadows. This species has disappeared from much of its range, due to habitat destruction and nest parasitism from brown-headed cowbirds (Gaines 1992).

Wawona meadows and associated riparian habitats—intact vegetation comprising aspens, willows, and alders—support the only known population of willow flycatcher in the Yosemite National Park (Serena 1982). One sighting of a willow flycatcher was reported approximately 1 mile west of Camp Wawona. However, there is no suitable on-site habitat in the Camp Wawona project area, and habitat for the willow flycatcher along the nearby stretch of the South Fork is poor.

The **Pacific fisher** occurs in coniferous forests and deciduous-riparian habitats with a high percent canopy closure. This species avoids entering open areas that have no overstory or shrub cover. The presence of large conifers and hardwoods is a highly significant predictor of fisher occurrence, probably because of an abundance of cavities, and the production of acorns that may stimulate higher prey densities. Forest type is probably not as important to fishers as conditions that support abundant prey populations and reduce fisher predation. Riparian corridors and forested saddles between major drainages may provide important dispersal habitat or landscape linkages for the species. In Yosemite, fishers occur most commonly between 2,800 and 6,200 feet in elevation. Densities in the central Sierra Nevada appear to be very low, possibly from fragmenting of habitat by roads and human disturbance. The highest density of fishers in Yosemite National Park have been found south of Yosemite Valley, particularly along the Wawona Road and Glacier Point Road corridors (NPS 2000b). According to the CNDDDB, one sighting of a Pacific fisher was reported 1.5 miles southeast of Camp Wawona. Suitable habitat for this species occurs within the Camp Wawona area and on the project site.

The entire California population of the **great gray owl** is restricted to the Yosemite region. Summer habitat is in mixed conifer forest with a component of mature and old growth forest in association with meadows. These owls tend to migrate downslope in the winter. Winter ranges of the great grey owl in the Yosemite area include Wawona Meadow, where they are regularly seen. It breeds in mixed conifer/red fir forests bordering meadows, and forages only in open meadows, generally at least 25 acres in area (NPS 2000b). There is one small meadow area south of the Camp Wawona parcel of land proposed for exchange and restoration that could provide marginal habitat, although the owls would be expected to choose larger, relatively nearby habitat that is more suitable. Although great gray owls may be found in the Wawona area, there is no suitable foraging or breeding habitat on the Camp Wawona project site.

Other special-status species that could potentially occur in the Camp Wawona area are discussed below.

Cooper's hawk occur in the Yosemite area mostly during fall migration in August, September, and October. The nesting period for Cooper's hawk is April through August. They usually nest in stands of live oak and have also bred in second-growth oak-conifer forests. Wintering and transient birds hunt in a wide variety of wooded habitats, and occasionally scrub as well. They are typically found above 5,000 feet (Gaines 1992). This species could use the project site occasionally for foraging. For nesting, the Cooper's hawk would likely choose more suitable, less disturbed adjacent habitat over that which is provided on the project site.

The **northern goshawk** breeds in most mountain areas, where it remains throughout the winter. Preferred habitat is moderately dense coniferous forests broken by meadows and other openings, between 5,000 and 9,000 feet elevation. Nests are built in mature live trees, usually in dense, north-facing stands of coniferous, mixed, and deciduous forests. The nesting season for northern goshawk extends from April to August. In the Sierra Nevada, goshawks breed in elevations that support mixed conifer forests up to higher lodgepole pine forests. Goshawks hunt from tree perches, scanning the ground and lower canopy for prey, and they are dependent on squirrels and mid-sized forest birds (NPS 2000b). Suitable habitat exists on-site, and goshawks may use portions of the South Fork Merced River watershed, but most likely they would be found at higher elevations than those in the project area.

The **sharp-shinned hawk** uses open coniferous forests and the edges of meadows and clearings in the summer, and transient or wintering birds hunt wherever small birds are numerous. They are most numerous in the Yosemite area from late August through early November. They probably nest in the forested parts of the Yosemite area between 4,000 and 7,000 feet, but this is uncertain. The nesting period for sharp-shinned hawk in the Yosemite area is August through October. They are rarely found in the winter below 4,000 feet. Riparian habitats are preferred, and habitat with north-facing slopes is critical (Gaines 1992; NPS 2000b). Habitat is present on the project site and in the general project area, and it is possible, although unlikely due to their rarity, that these birds could be living and nesting in the area.

The **olive-sided flycatcher** dwells in dense, old-growth forests and where scattered tall timber overlooks saplings, chaparral, or even bare rock. The make-up of the forest is less important than the amount of space that can be scanned from high perches in the dead tips or uppermost branches of lofty trees. Ponderosa pines, sugar pines, Douglas firs, and white and red firs are especially favored. They use high perches between long sallies after flying insects, often returning to the same perch time after time. They nest in most forested habitats, and transients appear wherever there are trees, including towns and isolated groves. They winter in South America, and nest in the western Sierra between 3,000 and 9,000 feet. The nesting period for olive-sided flycatcher in the Yosemite area is May through August (Gaines 1992). Habitat is present on the project site and in the general project area. These flycatchers may nest on or adjacent to the project site.

The **flammulated owl** favors open forests of black oak, ponderosa pine, white fir, and other trees interspersed with small, shrubby openings. They usually nest at altitudes between 3,000 and 6,000 feet. They are insectivorous birds, but unlike most owls, they are migratory, wintering from central Mexico to Central America. The nesting period for flammulated owl is April through October in the Yosemite area (Gaines 1992). Although the CNDDDB does not contain records of any sightings of this species in the Wawona area, there is suitable nesting habitat in the Camp Wawona project area, and in surrounding lands.

The **white-headed woodpecker** dwells in mature, mixed coniferous forests with trees of moderate to large girth. They are found among sugar and ponderosa pines, white and red firs, sequoias, incense cedars, and black oaks. While closely associated with conifers, they can be found in large cottonwoods and aspen groves. They excavate the soft, decayed wood of dead trees or snags for nesting sites, but they prefer dining on the bark of living trees. They are a common resident from 3,000 to 8,000 feet. White-headed woodpeckers nest from April through August. They tolerate human presence very well, and often nest in close proximity to human disturbance (Gaines 1992). Suitable habitat for the white-headed woodpecker is present on and adjacent to the project site, and these birds could be living and nesting on the project site.

The **red-breasted sapsucker** prefers hardwoods, but is at home in mixed forests dominated by sugar pines, ponderosa pines, white firs, red firs, lodgepole pines, and other conifers. They favor the wooded margins of meadows, lakes, streams and other openings, where there are usually hardwoods as well as plentiful aerial insects. They drill for sap in aspens, willows, cottonwoods, alders, and other hardwoods, but rarely into conifers. They can be found in the Yosemite area year-round, and nest from April through August at elevations between 4,000 and 8,000 feet. They often move from the higher mountains to lower elevations when the weather turns cold. From summer into early autumn, they disperse irregularly both up and down slope (Gaines 1992). Red-breasted sapsucker would most likely favor more suitable habitat in the greater vicinity, but they may also occur on the project site.

The **California spotted owl**, more than any other bird, is identified with dense, old-growth forests. They inhabit the deep, multilayered old-growth forests that clothe shady slopes and

canyon bottoms below the level of heavy snow, often near rivers or streams. They dwell below the red fir forests among Douglas firs, incense cedars, sugar pines, ponderosa pine, white firs, sequoias, big-leaf maples, and black oaks. They typically nest between 3,000 and 5,000 feet from April through August. Surveys show spotted owl use in the greater Wawona area, but not in the proximity of the project site (Gould and Norton 1993; Roberts et al. 1988; Steger 2000). Suitable habitat is located in the Wawona area, but not on the project site. It is unlikely that spotted owls are within close proximity of the project site.

The **pallid bat** is found primarily in low to mid elevations in California. It is found in a variety of habitats including coniferous forest and non-coniferous woodlands. It selects a variety of day roosts including rock outcrops, mines, caves, hollow trees, buildings, and bridges; recent research suggests a high reliance on tree roosts (NPS 2000b). It commonly uses bridges for night roosts. Maternity roosts may contain up to several hundred females, but generally have fewer than 100. Surveys in the area show use by this species on the South Fork Merced River (Pierson and Rainey 1995). Suitable roosting and foraging habitat occurs both on the project site and on adjacent lands.

Pale big-eared bats and **Townsend's big-eared bats** live in a variety of communities, including broad-leaf forests, oak and conifer woodlands, arid grasslands and deserts, and high-elevation forests and meadows. These bats are most commonly found in mesic sites. Known roosting sites include limestone caves, lava tubes, mine tunnels, buildings, and other human-made structures. Habitat must include appropriate roosting, maternity, and hibernacula sites free from disturbances by humans. Females typically roost in large maternity colonies that are highly susceptible to disturbances by humans. Males usually roost singly or in small groups and are probably not affected as much as females by disturbances. Both sexes hibernate in buildings, caves, and mine tunnels. Populations appear to have declined dramatically since the 1950's (CDFG 1986a). Surveys in the area show some use by this species on the South Fork Merced River (Pierson and Rainey 1995). Because of pale big-eared bats' sensitivity to humans they would likely roost at less disturbed habitat than that present on the project site, although the project site may be used for foraging.

The **spotted bat** is one of the rarest species of bats in the United States, and because of this, little of its life history is known. During June and July, the spotted bat is a resident of the ponderosa pine region of the western Sierra Nevada, but it prefers the cracks and crevices of prominent high cliffs and canyons. Their dependency on rock-faced cliff roosting habitat limits the spotted bat to very small geographic areas with specific geologic features. Although known to roost on cliff faces and thought to be non-colonial, specific roost characteristics are not known. It appears to feed almost exclusively on flying moths. Surveys in the area show substantial use by this species on the South Fork Merced River (Pierson and Rainey 1995). Although the spotted bat may be found in the general area of the project site, and may use the river area for foraging, there is no proper roosting habitat on-site.

The **greater western mastiff bat** is a colonial rooster that favors rugged, rocky areas where suitable crevices are available for day-roosts. Characteristically, day-roosts are located in large

cracks in exfoliating slabs of granite or sandstone. Mastiff bats also frequently roost in buildings, provided these have sheltering spaces with conditions similar to those described above. They may also roost in hollow trees. They probably migrate from colder areas to winter in the southern lowlands, and they become torpid on a circadian cycle during the winter months (CDFG 1986b). Surveys in the area show substantial use by this species on the South Fork Merced River and at Camp Wawona (Pierson and Rainey 1995). Potential roosting habitat on the project site is considered poor due to a lack of suitable large rock outcroppings. The mastiff bat probably forages in the project area.

The **small-footed myotis** occurs near water up to at least 8,900 feet in elevation. It prefers open stands in forests and woodlands as well as brushy habitats. Streams, ponds, springs, and stock tanks are used for drinking and feeding. This bat seeks cover in caves, buildings, mines, crevices, and occasionally under bridges and under bark. Separate night roosts may be used. Groups of 50 or more may inhabit a hibernation site. Maternity colonies of females and young are found in buildings, caves, and mines, and usually contain 12 to 20 individuals. Humid roost sites are preferred. This species feeds on moths, flies, beetles, bugs, and other flying insects. Surveys in the area show use by this species on the South Fork Merced River (Pierson and Rainey 1995). Marginally suitable roosting and foraging habitat occurs both on the project site and on adjacent lands.

The **long-eared myotis** is found in nearly all brush, woodland, and forest habitats up to 9,000 feet, but coniferous woodlands and forests seem to be preferred. It roosts in buildings, crevices, spaces under bark, and snags. Caves are primarily used as night roosts, and it roosts singly, or in small groups. Nursery colonies of 12 to 30 individuals are found in buildings, crevices, snags, and behind bark. Surveys in the area show use by this species on the South Fork Merced River (Pierson and Rainey 1995). Suitable roosting and foraging habitat occurs both on the project site and on adjacent lands.

The **fringed myotis**' optimal habitats are pinyon-juniper, valley foothill hardwood, and hardwood-conifer, generally at elevations between 4,000 and 7,000 feet. It roosts in caves, mines, buildings, and crevices, and separate day and night roosts may be used. Maternity colonies include up to 200 females, and are occupied from late April through September. Maternity group members may hibernate together from October through March. This species is migratory, making relatively short, local movements to suitable hibernacula. The fringed myotis is easily disturbed at roosting sites. This species is not expected to be found on the project site due to few suitable roosting sites and human disturbance, but it may forage in the project area.

The **long-legged myotis** is most common in woodland and forest habitats above 4,000 feet. It also forages in chaparral, coastal scrub, and early successional stages of woodlands and forests. It roosts in rock crevices, buildings, under tree bark, in snags, mines, and caves. Separate day and night roosts may be used. Trees are probably the most important day roosts, whereas caves and mines are used only as night roosts. They form nursery colonies numbering in the hundreds of individuals, usually under bark or in hollow trees, but occasionally in crevices or

buildings. Surveys in the area show no use by this species in the Yosemite National Park, although their presence is expected (Pierson and Rainey 1995). Suitable roosting and foraging habitat occurs both on the project site and on adjacent lands.

The **Yuma myotis** is found in a wide variety of habitats, but optimal habitats are open forests and woodlands with sources of water over which to feed. It typically day-roosts in buildings, mines, caves, crevices, or under bridges. Separate, more open roosts are used at night. Maternity colonies of several thousand females and young are found in warm, dark sites. Distribution is closely tied to bodies of water, which it uses as foraging sites and sources of drinking water. They are found up to 11,000 feet, although they are uncommon above 8,000 feet (Zeiner et al. 1990). Surveys in the area show extensive use by this species on the South Fork Merced River (Pierson and Rainey 1995). On-site day-roost, maternity roost, and foraging habitat is poor because of a lack of suitable roost sites or bodies of water, although the project site may provide night roosts. Suitable habitat along the river is most likely used for foraging and roosting.

The **pine marten** optimal habitat is mixed evergreen forests with more than 40% crown closure with large trees and snags. In Yosemite, they are generally found at elevations above 7,600 feet (NPS 2000b). Dens are located in cavities in trees, snags, logs, and rockpiles. Martens are mostly carnivorous, taking primarily small mammals, and in spring through autumn, birds, insects, and fruits. Martens will eat fish and will forage along the edge of water. Individuals may travel up to 16 miles hunting in one night. During winter, wind-thrown trees and logpiles are important as entrances into space under snow for hunting (Schempf and White 1977). Suitable habitat exists in the project area, however, due to the marten's historic higher elevational distribution, they are not expected to occur on the project site.

The **Sierra Nevada red fox** is found in a variety of habitats from wet meadows to forested areas (CNDDDB), but primarily in red fir, lodgepole pine, subalpine forests, and alpine Sierra (NPS 2000c). They use dense vegetation and rocky areas for cover and den sites, and prefer forests interspersed with meadows or alpine fell-fields (CNDDDB). They usually live above 7,000 feet elevation and rarely below 5,000 feet. The habitat at the Camp Wawona project site would be poor for the Sierra Nevada red fox, and existing human disturbance would discourage their existence in the project area.

Special-Status Plants

Table 4.4-2 contains information on special-status plant species with potential to occur on the project site. The database searches and personal communications (Waldow, pers. comm., 2003) revealed 7 special-status plant occurrences in the general vicinity of Camp Wawona. Eight additional "park rare" plant species identified by the National Park Service are included on the list of special-status species considered in this analysis. "Park Rare" plants are defined in the *Yosemite Valley Plan* as those species that are:

- ▶ locally rare natives,
- ▶ on CNPS Lists,

- ▶ endemic to the park or local vicinity,
- ▶ at the furthest extent of their range,
- ▶ of special importance to the park (identified in legislation or park management objectives),
- ▶ the subject of political concern or unusual public interest,
- ▶ vulnerable to local population declines, or
- ▶ subject to human disturbance during critical portions of their life cycle.

Table 4.4-2
Special-Status Plant Species with Potential to Occur on the Project Site

Species	Listing Status				Habitat	Flowering Period	Potential for Occurrence
	Federal	State	CNPS	Park			
Yosemite onion <i>Allium yosemitense</i>	--	R	1B	--	Open metamorphic slabs and domes, talus slopes, and scree in broadleaved upland forests, chaparral, cismontane woodland and lower montane coniferous forests	April-July	Potentially suitable habitat present on-site but limited suitable substrate
Snapdragon <i>Antirrhinum leptaleum</i>	--	--	--	PR	Small washes, shallow ditches, disturbed areas, ponderosa pine forest, foothill woodland	May-July	Potentially suitable habitat present on-site and off-site near Merced River
Bolander's woodreed <i>Cinna bolanderi</i>	--	--	4	--	Meadows, seeps, and mesic, streamside upper montane coniferous forest	July-August	Potentially suitable habitat present off-site, near Merced River
Child's blue-eyed Mary <i>Collinsia childii</i>	--	--	--	PR	Shaded slopes and open oak and mixed coniferous woodlands	April-June	Potentially suitable habitat present on-site
Mountain lady's-slipper <i>Cypripedium montanum</i>	--	--	4	--	Moist areas or dry slopes in mixed-coniferous or mixed-evergreen forest	March-August	Potentially suitable habitat present on-site
Round-leaved sundew <i>Drosera rotundifolia</i>	--	--	--	PR	Sphagnum bogs	July-August	None; no suitable habitat
Congdon's woolly sunflower <i>Eriophyllum congdonii</i>	SOC	R	1B	--	Dry ridges on metamorphic rocks, scree and talus in chaparral, cismontane woodland, and lower montane coniferous forests	May-June	Potentially suitable habitat present on-site but limited suitable substrate

Table 4.4-2
Special-Status Plant Species with Potential to Occur on the Project Site

Species	Listing Status				Habitat	Flowering Period	Potential for Occurrence
	Federal	State	CNPS	Park			
Yosemite woolly sunflower <i>Eriophyllum nubigenum</i>	SOC	--	1B	--	Dry, south-facing metamorphic and metasedimentary slabs, domes, scree and talus in chaparral, lower montane coniferous forests, and upper montane coniferous forests	May-August	Potentially suitable habitat present on-site but limited suitable substrate
Short-leaved hulsea <i>Hulsea brevifolia</i>	--	--	1B	--	Gravelly soils in lower and upper montane forests	May-August	Potentially suitable habitat present on-site
Congdon's lewisia <i>Lewisia congdonii</i>	--	R	1B	--	Moist, exposed metamorphic rock faces and slopes in chaparral and mixed-coniferous forests on shaded north-facing slopes	April-June	Potentially suitable habitat present on-site but limited suitable substrate
Sierra sweet-bay <i>Myrica hartwegii</i>	--	--	--	PR	Streambanks and other moist places in foothills or lower montane ponderosa pine forest	May-June	Potentially suitable habitat present off-site, near Merced River
Bolander's skullcap <i>Scutellaria bolanderi</i>	--	--	--	PR	Moist, gravelly soils along streambanks in oak and pine woodlands	June-July	Potentially suitable habitat present off-site, near Merced River
Giant Sequoia <i>Sequoiadendron giganteum</i>	--	--	--	PR	Forms overstory in mixed-coniferous forest, especially with favorable soil moisture	N/A	None; conspicuous tree not observed during survey
Trillium <i>Trillium angustipetalum</i>	--	--	--	PR	Montane coniferous forests, foothill woodland, chaparral, riparian woodland	March-April	Potentially suitable habitat present on-site
Hall's wyethia <i>Wyethia elata</i>	--	--	4	PR	Open, deciduous woodlands and coniferous forests	June-August	Potentially suitable habitat present on-site

Table 4.4-2
Special-Status Plant Species with Potential to Occur on the Project Site

Species	Listing Status				Habitat	Flowering Period	Potential for Occurrence
	Federal	State	CNPS	Park			
U.S. Fish and Wildlife Service (USFWS) Federal: SOC = Species of Concern							
California Department of Fish and Game (CDFG) State: R = California Rare							
California Native Plant Society (CNPS): 1B = Plants rare, threatened, or endangered in California and elsewhere 4 = Plants of limited distribution (watch list)							
Yosemite National Park: PR = Park Rare							
Source: CNDDB (2003), CNPS (2003), Hickman et al. (1993), Munz and Keck (1959), Yosemite National Park Rare Plant List for the Wawona area (no citation), Merced Wild and Scenic River FEIS (NPS 2000c).							

The species with potentially suitable habitat on or adjacent to the project site are described below. The potential for occurrence of special-status plants on the project site could not be excluded since the survey was conducted at a reconnaissance level.

Yosemite onion (*Allium yosemitense*) is state-listed as Rare, listed on CNPS List 1B (plants rare, threatened, or endangered in California and elsewhere), and considered “park rare” by Yosemite National Park. It is a bulb-bearing herb in the lily family. Yosemite onion produces showy clusters of pink flowers from April to July. This species grows on rocky, metamorphic slabs and slopes within broadleaved upland forest, chaparral, cismontane woodland, and lower montane coniferous forest. Sierra mixed coniferous forest on-site provides potentially suitable habitat for this species. However, suitable rocky substrate in this habitat is limited.

Snapdragon (*Antirrhinum leptaleum*) is a “park rare” species that is a herbaceous annual. It produces solitary white to pale lavender flowers from May to July (Hickman 1993; Munz and Keck 1959). Snapdragon grows in small washes, shallow ditches, and disturbed areas as well as in foothill woodland and ponderosa pine forest. On-site Sierra mixed coniferous forest provides potentially suitable habitat. In addition, off-site areas adjacent to the South Fork Merced River provide potentially suitable habitat for this species.

Bolander’s woodreed (*Cinna bolanderi*) is a perennial grass that is considered a List 4 species (plants of limited distribution – watch list) by CNPS. It grows in mesic, streamside environments within meadows, seeps, and upper montane coniferous forest. The blooming period for Bolander’s woodreed extends from July to August. Off-site areas adjacent to the South Fork Merced River provide potentially suitable habitat for this species.

Child’s blue-eyed Mary (*Collinsia childii*) is a “park rare” species that grows on shaded slopes in open oak and mixed coniferous woodlands. This annual herb is a member of the snapdragon family that produces white or pale lavender flowers (Hickman 1993). The blooming period for

Child's blue-eyed Mary extends from April to June (Munz and Keck 1959). Sierra mixed coniferous forest occurring on-site provides potentially suitable habitat for this species.

Mountain lady's-slipper (*Cypripedium montanum*) is a CNPS List 4 species that grows on moist areas or dry slopes in mixed-coniferous or mixed-evergreen forests. It is a rhizomatous herbaceous member of the orchid family. Mountain lady's-slipper gets its name from its very attractive and unusual flowers, which have a white, balloon-like petal lip and purplish twisted sepals. This orchid has 4-6 alternate stem leaves (Hickman 1993). Its blooming period extends from March to August. Mountain lady's-slipper occurs near the Wawona golf course, and Sierra mixed coniferous forest on-site provides potentially suitable habitat (Waldow, pers. comm. 2003). There is widespread decline of this species in the Sierra Nevada as well as increasing concern regarding commercial theft of plants (Waldow, pers. comm. 2003).

Congdon's woolly sunflower (*Eriophyllum congdonii*) is a federal Species of Concern, state-listed as Rare, and listed on CNPS List 1B. This annual herb is a member of the sunflower family. The plant is covered with dense, woolly hairs that impart a greyish color to the leaves and stem. Congdon's woolly sunflower produces yellow, daisy-like flowers from May to June. It grows on rocky, metamorphic substrate within chaparral, cismontane woodland, and lower montane coniferous forest. Sierra mixed coniferous forest on-site provides potentially suitable habitat for this species. However, suitable rocky substrate in this habitat is limited.

Yosemite woolly sunflower (*Eriophyllum nubigenum*) is a federal Species of Concern and CNPS List 1B species. It is similar in general appearance to Congdon's woolly sunflower, but differs in its ascending branches and shorter ligules (petals of outer flowers) (Hickman 1993). The blooming period for Yosemite woolly sunflower extends from May to August. It grows on rocky or gravelly substrate in chaparral, cismontane woodland, and lower montane coniferous forest. Sierra mixed coniferous forest on-site provides potentially suitable habitat for this species. However, suitable rocky substrate in this habitat is limited.

Short-leaved hulsea (*Hulsea brevifolia*) is a yellow-flowered perennial herb in the sunflower family. This CNPS List 1B species grows in montane coniferous forest on sandy or gravelly substrates derived from granitic or volcanic parent materials. Its blooming period extends from May to August. Sierra mixed coniferous forest on-site provides potentially suitable habitat for short-leaved hulsea.

Congdon's lewisia (*Lewisia congdonii*) is state-listed as Rare and listed on CNPS List 1B. It is a perennial herbaceous member of the purslane family. Congdon's lewisia produces showy pink to white flowers from April to June. It grows in chaparral, cismontane woodland, and montane coniferous forest on rocky, mesic sites derived from granitic or metamorphic parent materials. This species is known from only 6 occurrences in the canyons of the Kings and Merced rivers. Sierra mixed coniferous forest on-site provides potentially suitable habitat for Congdon's lewisia. However, suitable rocky substrate in this habitat is limited.

Sierra sweet-bay (*Myrica hartwegii*) is a deciduous shrub in the wax myrtle family. It is a "park rare" species that grows on streambanks or other moist areas in foothills or lower montane

ponderosa pine forest (Hickman 1993). It produces leaves that are aromatic when crushed and small flowers lacking petals. The blooming period for this species extends from May to June (Munz and Keck 1959). Off-site areas adjacent to the South Fork Merced River provide potentially suitable habitat for this species.

Bolander's skullcap (*Scutellaria bolanderi*) is a perennial herbaceous member of the mint family that is considered "park rare." This species grows in moist areas with gravelly soil within oak and pine woodlands and along streambanks. Bolander's skullcap produces 2-lipped flowers that are white with blue mottles on the lower lip (Hickman 1993). The blooming period for this species extends from June to July (Munz and Keck 1959). Off-site areas adjacent to the South Fork Merced River provide potentially suitable habitat for this species.

Trillium (*Trillium angustipetalum*) is a "park rare" species that belongs to the lily family. This distinctive plant is a herbaceous perennial that produces three mottled leaves and a single sessile flower. The petals are narrow and burgundy to dark purple in color. It typically grows in montane coniferous forest, foothill woodland, chaparral, and riparian woodland (Hickman 1993). The blooming period for this species extends from March to April (Munz and Keck 1959). Sierra mixed coniferous forest on-site provides potentially suitable habitat for trillium.

Hall's wyethia (*Wyethia elata*) is a CNPS List 4 and "park rare" species. It is a perennial herbaceous member of the sunflower family. Hall's wyethia produces showy yellow sunflower-like inflorescences from June to August. This species grows in open, deciduous woodlands and coniferous forest. Sierra mixed coniferous forest on-site provides potentially suitable habitat for Hall's wyethia.

Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies, or that are afforded specific consideration through CEQA, Section 1600 of the California Fish and Game Code, and/or Section 404 of the federal Clean Water Act as discussed subsequently under Regulatory Framework. On the project site, the two drainage swales located on the lands proposed for exchange from the National Park Service to the Seventh-day Adventists are the only features that could potentially be considered sensitive habitat. Although no formal wetland delineation has been conducted, these swales do not meet the criteria of the Cowardin classification system (Cowardin et al. 1979) and would not be considered jurisdictional Waters of the United States by the U.S. Army Corps of Engineers (USACE) because they both lack an ordinary high water mark (OHWM) and wetland vegetation (Haley, pers. comm., 2003). The South Fork Merced River is over 400 feet away and these swales do not appear to be connected to another Water of the U.S. However, these features could be considered sensitive by CDFG and require a Streambed Alteration Agreement (Jennings, pers. comm., 2003). Likewise, they could be considered waters of the state by the Regional Water Quality Control Board (RWQCB) and require a Section 401 Water Quality Certification.

Off-site, the South Fork Merced River is considered sensitive for its habitat value and because it is a jurisdictional Water of the United States. Patches of wetland vegetation located in forest

openings between the river and the project site are also potentially jurisdictional wetlands. The CNDDDB search identified an occurrence of Big Tree Forest in the vicinity of the project site, but this sensitive habitat does not occur on the project site.

California black oak communities in Yosemite Valley are considered a highly valued resource by the National Park Service and have been identified as sensitive due to declines in population size, vigor, and recruitment rates (NPS 2000b). These communities are also considered significant as a cultural resource because black oak acorns were a primary food source for Native Americans in the Yosemite Valley and continue to be gathered in certain areas. The National Park Service has focused on protecting existing stands of black oaks, restoring degraded stands, and avoiding impacts to black oaks in areas with development. Although black oak woodland does not occur on the project site, black oak trees are subdominant in portions of Sierra mixed coniferous forest habitat, and are present both on the Seventh-day Adventists property and the 18 acres of land proposed for exchange from the National Park Service.

4.4.2 REGULATORY FRAMEWORK

FEDERAL

Federal Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA), the USFWS has authority over projects that may result in the take of a federally listed species. Under the ESA, the definition of “take” is to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” USFWS has also interpreted the definition of “harm” to include significant habitat modification that could result in take. If a project has a likelihood that it would result in take of a federally listed species, either an incidental take permit under Section 10(a) of the ESA, or a federal interagency consultation, under Section 7 of the ESA, is required.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703) makes it unlawful to pursue, hunt, take, capture, kill or possess any migratory bird, or part, nest, or egg of such bird listed in wildlife protection treaties between the United States and Great Britain (on behalf of Canada), Mexico, Japan, and the former USSR. In addition, this act also contains a clause that prohibits baiting or poisoning of these bird species. The current list of species covered by MBTA can be found in Title 50, Code of Federal Regulations §10.13.

Section 404 of the Clean Water Act

Section 404 of the Clean Water Act (CWA) establishes a requirement to obtain a permit prior to initiating any activity that involves any discharge of dredged or fill material into “waters of the United States,” including wetlands. Waters of the United States include navigable waters of the United States, interstate waters, all other waters in which use, degradation, or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and

wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Many surface waters and wetlands in California meet the criteria for waters of the United States, including intermittent streams and seasonal lakes and wetlands.

Pursuant to Section 404 of the CWA, the USACE regulates and issues permits for activities that involve the discharge of dredged or fill materials into waters of the United States. Some activities that result in minor impacts to waters of the U.S. may be covered under a USACE nationwide permit. If the project does not qualify for a nationwide permit, the applicant must obtain an individual permit.

Based on the recent Solid Waste Agency of Northern Cook County vs. USACE No. 99-1178 (SWANCC 2001) court case, wetlands that are considered “isolated” (i.e., wetlands that are not hydrologically connected to waters of the United States) are no longer subject to USACE jurisdiction. The regulation of fill to those wetlands now falls to the Regional Water Quality Control Boards. The decision on whether a wetland is isolated lies with the USACE, who will typically evaluate data presented in a wetland delineation or similar technical report.

Section 401 Water Quality Certification

Each of the nine Regional Water Quality Control Boards (RWQCB) must prepare and periodically update water quality control basin plans pursuant to the state Porter-Cologne Act. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to achieve wetland protection based on water quality objectives. Another opportunity for wetland protection is the Section 401 certification process. Under Section 401 of the CWA, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must obtain a certificate from the appropriate state agency stating that the fill is consistent with the state’s water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board (SWRCB) to the nine regional boards.

Executive Order 11990: Protection of Wetlands

This executive order established the protection of wetlands and riparian systems as the official policy of the federal government. It requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.

Director's Order 77-1: Wetland Protection

The wetland protection provisions of the 1980 National Park Service Floodplain Management and Wetland Protection Guidelines (45 CFR 35916, minor revisions in 47 CFR 36718), and any other conflicting instructions or delegations of authority, are superseded and replaced by this director's order and by Procedural Manual #71-1. Approved in 1998, the manual was developed for use by the National Park Service in carrying out its responsibilities under Executive Order 11990. The general policies, requirements, and standards included in the manual are:

- ▶ no net loss of wetlands and a long-term goal of net wetland gain;
- ▶ parkwide wetland inventories;
- ▶ restoration and enhancement of degraded wetland habitats;
- ▶ planning and siting to avoid or minimize effects to wetlands;
- ▶ restoration of degraded wetlands as compensation for adverse effects to wetlands; and
- ▶ compliance with federal environmental regulations.

Executive Order 11312: Invasive Species

Executive Order 11312 (February 3, 1999) directs all federal agencies to prevent and control introductions of invasive non-native species in a cost effective and environmentally sound manner to minimize their economic, ecological, and human health impacts. Executive Order 11312 established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and Advisory Committee oversees and facilitates implementation of the Executive Order, including preparation of a National Invasive Species Management Plan.

Federal Noxious and Invasive Weed Laws

A number of federal laws pertain to noxious and invasive weeds, including the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 as amended (16 U.S.C. 4701 et seq.), the Lacey Act as amended (18 U.S.C. 42), the Federal Plant Pest Act (7 U.S.C. 150aa et seq.), the Federal Noxious Weed Act of 1974 as amended by the Food, Agriculture, Conservation and Trade Act of 1990 (Section 1453 "Management of Undesirable Plants on Federal Lands;" U.S.C. 2801 et seq.), the Carlson-Fogey Act of 1968 (Public Law 90-583), and Federal Executive Order 11312, as noted above. Federal agencies are also concerned about invasive weed infestation and dispersal on private and public lands. The Bureau of Land Management and the U.S. Department of Agriculture maintain lists of pest plants of economic or ecological concern.

Yosemite National Park General Management Plan

The primary policy plan that guides the National Park Service in protecting and managing the park is the *Yosemite National Park General Management Plan (Yosemite Management Plan)*, which

was adopted in 1980. There are a number of subsidiary implementation plans to the *Yosemite General Plan*. Those relevant to biological resources and addressed in this analysis include the *Yosemite Valley Plan*, the *Natural Resources Management Plan*, the *Vegetation Management Plan*, the *Yosemite Fire Management Plan*, and the *Yosemite Deer Herd Management Plan*.

Wild and Scenic Rivers Act 1968, as amended (16 USC 1271-1287)

This act established the National Wild and Scenic Rivers System and designated the first Wild and Scenic Rivers. The act requires a comprehensive management plan for designated rivers and contains guidance for their management, particularly with regard to free-flowing condition and Outstandingly Remarkable Values. Section 3(a)(62) contains the language of the 1987 act that added the Merced River to the National Wild and Scenic Rivers System.

Merced Wild and Scenic River Comprehensive Management Plan

The National Park Service adopted the *Merced Wild and Scenic River Comprehensive Management Plan (Merced River Plan)* in 2000 for the portion of the Merced River corridor within Yosemite National Park, including the South Fork Merced River. In the Town of Wawona, the river was designated as Recreational within the Wild and Scenic River classification system. As noted in Section 4.1 of this document, the *Merced River Plan* applies management zoning and a River Protection Overlay (RPO) buffer area within the river corridor (see Figure 4.1-2). The three primary management zones are: (1) Wilderness zones, (2) Diverse Visitor Experience zones, and (3) Developed zones. The RPO and management zones do not apply to private properties.

STATE

California Endangered Species Act

Pursuant to the California Endangered Species Act (CESA) and Section 2081 of the Fish and Game Code, a permit from the California Department of Fish and Game (CDFG) is required for projects that could result in the take of a state-listed Threatened or Endangered species. Under CESA, “take” is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include “harm” or “harass,” as the federal act does. As a result, the threshold for a take under the CESA is higher than that under the ESA.

California Fish and Game Code §3503.5 - Protection of Raptors

Section 3503.5 of the Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs. Violations include destruction of active raptor nests as a result of tree removal and disturbance to nesting pairs by nearby human activity, which may cause nest abandonment and reproductive failure.

Porter-Cologne Water Quality Control Act (California Water Code, Section 13020)

Under the authority of the Porter-Cologne Act and federal Clean Water Act, Regional Water Quality Control Boards act as regional agencies for the State Water Resources Control Board and are responsible for regional enforcement of water quality laws and coordination of water quality control activities. The regional board for the Yosemite area is the Central Valley Regional Water Quality Control Board.

Section 1600 et seq. of the California Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream or lake in California that supports wildlife resources is subject to regulation by CDFG, pursuant to §1600 through §1603 of the California Fish and Game Code. Under §1603, it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFG, or use any material from the streambeds, without first notifying CDFG of such activity. A stream is defined as a body of water that flows at least periodically through a bed or channel having banks and that supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFG's jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife. A CDFG Streambed Alteration Agreement must be obtained for any project that would result in an impact to a river, stream, or lake.

Fully Protected Species under the Fish and Game Code

Four sections of the Fish and Game Code list 37 fully protected species (Fish and Game Code §§3511, 4700, 5050, 5515). These statutes prohibit take or possession at any time of fully protected species. CDFG is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species. CDFG has informed nonfederal agencies and private parties that they must avoid take of any fully protected species in carrying out projects.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the Native Plant Protection Act. The act directed the California Department of Fish and Game to carry out the Legislature's intent to "preserve, protect, and enhance endangered plants in this state." The act gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. When the California Endangered Species Act was passed, it expanded upon the Native Plant Protection Act and enhanced legal protection for plants. To align with federal regulations, the California Endangered Species Act adopted the categories "threatened" and "endangered" species. It grandfathered all "rare" animals into the act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered.

California Invasive, Non-Native Plant Regulations

In recognition of the threats that invasive, non-native plants pose to native vegetation and wildlife habitat, the state government has developed laws and regulations protecting commerce and environmental lands from damages caused by invasive weeds. The California Food and Agriculture Code contains several important laws affecting noxious and invasive weeds in the state.

The California Invasive Plant Council (Cal-IPC) (formerly the California Exotic Pest Plant Council [CalEPPC]) has developed a list of non-native plants that pose serious problems in native ecosystems and rangelands (Cal-IPC 1999). These species are classified into different list categories based on the level of threat and invasiveness. List A includes the most invasive wildland pest plants, which have been documented as aggressive invaders, displace natives, and disrupt natural habitat. It includes two sub-lists: List A-1 (widespread pests that are invasive in more than three Jepson geographic regions) and List A-2 (regional pests invasive in three or fewer Jepson geographic regions). List B includes wildland pest plants of lesser invasiveness than the previous lists. Invasive pest plants on this list spread less rapidly and cause a lesser degree of habitat disruption and may be widespread or regional in distribution. The Red Alert List includes pest plants with potential to spread explosively; infestations are currently small or localized. In addition, Cal-IPC has developed a preliminary list of annual grasses, abundant and widespread in California that pose significant threats to wildlands. Information is still being gathered by Cal-IPC to support further definition of the Annual Grasses category.

LOCAL

County of Mariposa General Plan

Land use planning in Mariposa County is currently regulated through the Mariposa County General Plan, which was adopted in 1981. Federal lands are regulated by federal plans and regulations, such as the *Yosemite General Management Plan*. The Mariposa County General Plan is divided into elements based on subject (e.g., housing element) and geography (i.e., area plans). An area plan is an element of the General Plan adopted by the Board of Supervisors to provide goals, policies, and implementation measures for a community, town, or other special planning areas such as the Town of Wawona. The County's area plans address issues and development policies in greater detail than the general plan. The area plan that covers the Camp Wawona area is the Wawona Town Plan (County of Mariposa 2003a).

Mariposa County is in the process of updating its general plan, which was adopted in 1981. The draft version of the County of Mariposa General Plan Update 2003 was released on April 4, 2003. The final adoption of the updated general plan is expected to occur in early 2004.

Wawona Town Plan

An area plan for the project area, entitled the Wawona Town Plan, is being developed as a part of the County's general plan update process; this plan would contain policies that would be administered through the Wawona Town Planning Area Specific Plan. The Wawona Town Plan is unique in that its implementation is carried out jointly by the County and the National Park Service.

Wawona Town Planning Area Specific Plan

Land use planning in the project area is further administered by the County through the use of the Wawona Town Planning Area Specific Plan (WTPASP), which was originally adopted in 1987 and amended in 1990 and 1991. It is also recognized by the National Park Service as a planning document for a joint planning area managed by the National Park Service and the County in Section 35. Policies in the forthcoming Wawona Town Plan would be implemented through the WTPASP, which would be updated to be consistent with the Wawona Town Plan. Section 4.1 of this document covers a discussion of policies and goals described by the various governing plans for the Camp Wawona area, including those goals and policies relevant to biological resources. There are no policies specific to biological resources in the WTPASP, but the Environmental Protection (EP) land use designation emphasizes the preservation of open spaces for recreational uses and ecological balance, including wildlife habitat values (see Section 4.1).

4.5 CULTURAL RESOURCES

This section describes the prehistoric and historic background of the project area, as well as known information on the cultural resources that occur within the proposed action area. Research began with the gathering of background research at the Mariposa County Assessor's office, the Yosemite National Park Research Library, an interview with the Camp Manager, Dan Guthrie, and an examination of the historic General Land Office Plat Map for Township 4 South, Range 21 East.

4.5.1 BACKGROUND RESEARCH

A records search was conducted in April 2003 at the Central California Information Center (CCIC) of the California Historical Resources Information System (CHRIS). The records search included a review of the following sources and publications:

- ▶ *National Register of Historic Places* (National Park Service 1996, and Computer updates 1966 through 2000),
- ▶ *California Register of Historical Resources* (State of California 2001),
- ▶ *California Points of Historical Interest* (State of California 1992 and updates),
- ▶ *Historic Spots in California* (State of California 1990), and
- ▶ *Directory of Properties in the Historical Resources Inventory* (State of California 1976).

The CCIC response indicated that Archaeological Resource Management (ARM) had surveyed the project area in 1993. No cultural resources were identified within Camp Wawona or the lands to be exchanged by Yosemite during that investigation, although numerous prehistoric and historic resources were documented nearby. The Wawona Archaeological District, which encompasses the project area, is described below.

The archaeological report for Camp Wawona (ARM 1993) reported that much of the Camp Wawona area has already been developed or disturbed by natural or cultural uses. Conversely, the parcel to be exchanged by the Yosemite National Park is relatively undisturbed. However, thick duff and vegetation precluded good mineral soil visibility during the survey. The report concluded with recommendations of preservation of the historic wagons used by the camp, which appear to retain original hardware, and subsurface testing on some of the more level terrace areas that will experience subsurface disturbance (ARM 1993).

SECTION 106 CONSULTATION

A letter from Yosemite National Park to the State Historic Preservation Officer (SHPO) was transmitted on July 31, 2003. This letter served to notify the SHPO of the proposed action, the status of previous cultural resources investigations, past and on-going consultation with the public and local Native American tribes, and requested a review of the proposed action by the

SHPO. Copies of this letter were submitted to the County of Mariposa and three Native American groups most closely associated with the Wawona area: the American Indian Council of Mariposa County (also known as the Southern Sierra Miwuk Nation), the North Fork Mono Rancheria, and the Chukchansi Tribal Government. A copy of this letter is provided in Appendix B.

CULTURAL RESOURCES FIELDWORK

An architectural inventory of Camp Wawona was conducted on June 5, 2003. The results of this investigation are documented in Section 4.5.3 of this document.

4.5.2 OVERVIEW OF HUMAN OCCUPATION

AMERICAN INDIAN PERIOD

Yosemite Valley includes evidence of thousands of years of human occupation, reflected in the large number of archeological sites. Over the last 50 years of archaeological exploration, a major focus of study has been a determination of when the area was first occupied, and defining material culture changes since that time (Hull et al. 2002). Bennyhoff (1953, 1956) and Grosscup (1954) performed some of the early regional studies in the area, with Bennyhoff proposing a three-phase chronology valid for the region as a whole, including the Crane Flat, Tamarack, and Mariposa complexes. The relative dating of these complexes was based upon comparisons with similar technological forms from Central California and Lake Tahoe (Hull et al. 2002).

Later studies in the region further refined the cultural complexes and their associated dates. Moratto (1999) proposed 14 chronological periods covering the past 10,000 of culture history in the Yosemite region. These periods are grouped into five sequences, which include:

- ▶ the Early Prehistoric, spanning four pre-Archaic periods dating from 7500 to 6000 BC. Artifacts from this time include fluted points (none of which have been found in Yosemite to date), flaked crescents, large broad-stemmed points, implying use of the atlatl, and a relative lack of milling tools;
- ▶ the Intermediate Prehistoric includes two periods, ranging in time from 6000 to 1200 BC. Artifacts dating to this period may include Pinto and Humboldt points, choppers, flaked tools, implied use of the atlatl, and grinding slabs;
- ▶ the Late Prehistoric, including three periods, dates from 1200 BC to AD 1800. Each of the three periods roughly corresponds to Bennyhoff's three complexes, and includes characteristic projectile point types showing a progression from larger to smaller, atlatl to bow-and-arrow technology. Other artifacts include drills, awls, beads and an increasing use of groundstone technology;
- ▶ the Proto-Historic period (AD 1800-1847) marks additional Indian use of the Yosemite Valley just prior to contact with Euro-Americans; and

- ▶ the Historic period includes the last four subdivisions. However there is currently little archaeological evidence of these.

The ethnographic village of Sakayakumne may have been located near the eastern end of Forest Drive (Levy 1978). Identification and mapping of Southern Sierra Miwuk villages has been dependent on ethnographic information recorded early in the 20th century by anthropologists such as C. Hart Merriam.

CONTACT PERIOD

When Euro-Americans first entered Yosemite Valley in the early 1850s, the American Indians living there were primarily Southern Sierra Miwuk, with individuals joining or visiting them from the Mono Lake Paiute, and Central Sierra Miwuk band, coupled with some individuals from the disbanded Spanish missions to the west (post 1820s). The upland areas of the Merced River drainage were frequented by Southern Sierra Miwuk and the Mono Lake Paiute, and at least traversed by Western Monos and possibly the Washoe (Hull et al. 2002).

The Mariposa Indian War of 1851 was triggered by the influx of Euro-American miners, ranchers, farmers, and merchants taking American Indian lands elsewhere in California since 1848. After 1851, as awareness of Yosemite Valley grew, hotels and other travel-related amenities were developed. Due to the development of hotels and tourist-related activities, additional Mono Lake Paiutes arrived and remained in Yosemite Valley as part of the local workforce. Euro-American institutions directed management of the Valley, and American Indian interests were subject to decisions made without their influence. Traditions changed as Indian people built nontraditional houses, vacated old village sites, and built new villages. These changes were due in part to efforts by Euro-Americans to centralize the Indian people as a tourist “attraction” and control their activities (Hull et al. 2002).

American Indian people continue to live in and around the park, and many are employed by the National Park Service, the concessionaires, or other local businesses. At least seven Indian tribes claim traditional associations with Yosemite National Park, and the National Park Service has entered into various agreements with the American Indian Council of Mariposa County, Inc., the political organization representing the Southern Sierra Miwuk Tribe. Individuals from most of these tribes continue to maintain cultural associations with lands and resources in Yosemite National Park through traditional ceremonies, gathering of traditional plants, and other activities (NPS 2003a).

HISTORIC PERIOD

The first Euro-Americans to enter the Yosemite region were a party of hunters and trappers, led by Joseph R. Walker, who made an east-west crossing of the Sierra Nevada in October of 1833. Probably following a portion of the old Mono Indian Trail along the crest between the Merced and Tuolumne rivers, the expedition passed through what is now Yosemite National Park, though without descending into the Yosemite Valley (NPS 2003a).

In October of 1849, William Penn Abrams, while tracking a grizzly bear from Savage's Trading Post (at the junction of the Merced River and the South Fork approximately 10 miles from the park's western boundary) described his first view of what was unquestionably the Yosemite Valley. Although Abrams made no mention of American Indians, Chief Tenaya and his people were residing in the region at the time.

With the advent of the Gold Rush, parties of miners began traversing every river, stream, and drainage in the Sierra Nevada foothills, and many made their way up the Merced River to the Yosemite Valley, where they encountered American Indians in their villages. The expedition of the Mariposa Battalions of 1850 and 1851, intended to exterminate the American Indians, was touted as the first formal expedition into the Valley.

Although Indian trails had existed in Yosemite for thousands of years, the impetus to build roads in the area came largely from the development of tourism, which began in 1855 when J.M. Hutchings led the first tourists into the Valley. An improved trail to the Valley was constructed in 1856, from Mariposa by way of the South Fork Merced River. By 1856, regular tourist travel had been established, and the first Valley floor hotel (the Lower Hotel) was built that same year. Numerous other trails were established to bring tourists into the Valley. One of the earliest routes, established in 1856, was the Mann Brothers (Mariposa) Trail through Clark's Station (Wawona) and Inspiration Point. The Coulterville Free Trail, also built in 1856, traveled from Bull Creek through Deer Flat, Hazel Green, Crane Flat, and Gentry's to the Valley (NPS 2003a).

The first roads into the Valley were completed almost simultaneously: the Big Oak Flat Road in 1871, the Mariposa (Wawona) Road in 1874, and the Coulterville Road that same year. All the early roads into Yosemite were privately owned toll roads. After the development of roads into the Valley, trails, bridges, and interconnecting roads soon followed. The 1880s saw the establishment of a network of routes between lodging and scenic locations. In 1907, the Yosemite Valley Railroad was completed from Merced to its terminus at El Portal, from which passengers could travel by wagon to the floor of the Valley. At the urging of John Muir, and with continuing pressure from motorist groups, the state of California declared the construction of the "All Year Highway" from Mariposa through El Portal to the Valley to be its top priority. The road (El Portal Road) with a new entrance station located at Arch Rock near the park's western boundary, was completed in 1926.

Inspired by artists and writers who portrayed the magnificence of Yosemite's wonders, tourists began to pour into Yosemite Valley in large numbers. Numerous tourist-related businesses were established, primarily in the area of the Old Village, on the south bank of the Merced River.

Congress established Yosemite as a preserve in 1864, when the Yosemite Valley and Mariposa Big Trees, containing 60.4 square miles, were granted to California as public trust on June 30. Even though it was not considered a "national park" at the time, it is clear from the legislation that the intent was to preserve a national treasure. A much larger protected area was created around the original 36,111 acre Yosemite Valley Grant in 1890, when surrounding reserved

forest lands were added. The area that became Yosemite National Park was created on October 1, 1890 totaling 932,000 acres. It included the Minarets, Devil's Postpile, and the high elevation country of the Merced and Tuolumne Rivers headwaters (NPS 2003a).

However, the state could not afford to provide the financial backing required to maintain the park. Soon after the turn of the nineteenth century, the deterioration of the Valley under the state's management led to a movement, instigated primarily by John Muir, Theodore Roosevelt, and Governor George C. Pardee, to return the Yosemite Grant to the federal government to be part of the national park. As a result, several bills were introduced into the legislature for re-cession of the Yosemite Grant. The act was signed into law on March 3, 1905 and on June 6, 1906, the acting superintendent was directed to move his headquarters to Yosemite Valley and take charge of the Valley and Big Tree Grove. In 1916 the National Park Service Act was passed and Stephen T. Mather was made the first director of Yosemite National Park. Over the ensuing years, numerous boundary changes, primarily on the western edge, have restructured the park, which now totals 1,170 square miles.

Wawona, originally known as both Clark's Station and Big Tree Station, consisted of private land surrounded by state and federal lands (EDAW 2003). Canadian-born Galen Clark made his way to Mariposa County in 1853 where he worked as a miner, hunter, and guardian of the Yosemite Grant. He set up a homestead in Wawona in 1856, and built a hotel soon after to provide Yosemite visitors overnight lodging. Visitors used the Mann Brothers' Trail, which ran close to Clark's hotel, to get to the Yosemite Valley. Wawona became a popular stopping point for Yosemite-bound tourists coming from the south. The Manns were also early miners who turned settlers (Mendershausen 1983). Because of financial difficulties, Clark and his business partner, Edwin Moore, sold the property to John, Edward, and Henry Washburn in December 1874.

In the mid-nineteenth century, the Washburn brothers made their way to California from Putney, Vermont, intending to seek their fortunes in a bustling new state. Already owners of a mine and general store at Mormon Bar and Bridgeport, the brothers were eager entrepreneurs and made vast improvements to Clark's Wawona property. The Wawona Road to Yosemite Valley was built in 1874, a post office was established circa 1886, and electricity was incorporated around the turn of the century. By this time the new name of Wawona, a name first suggested by Henry Washburn's wife Jean, was firmly established. Other settlement occurred in the Wawona area, including a 16-year encampment by the U.S. Army from 1891 to 1906. The Washburn Wawona holdings, however, stayed in the family until they were sold to the National Park Service in 1932 (EDAW 2003). The Washburns sold timber rights to much of their acreage, resulting in widespread logging in the area from 1897 to the 1930s. Many other local homesteaders established small mills, with much of their production going towards Washburn construction activities.

Soon after gold was discovered at Coloma, mining activity spread throughout the Sierras. One of the original twenty-seven counties of California, Mariposa was a thriving settlement as early as 1850 due to early mining activity (Wood 1954). Underground hard-rock quartz mining was

extensively utilized in Mariposa, and became more profitable than placer mining by the end of the 1850s (Mendershausen 1983). Because this type of intensive mining was more conducive to this area, company mining took precedence over individual mining claims due to the higher capitalization costs. Over time, mining camps, such as Mariposa and Coulterville, transformed into more settled towns. By the early 1860s, people were settling in the foothills for more consistent economic pursuits such as livestock grazing and agriculture, rather than mining. However, mining activity continued throughout the twentieth century (EDAW 2003).

The Seventh-day Adventists have owned and operated Camp Wawona for over 70 years. Over time, the camp has existed in three different locations within Wawona. In 1929, the year it opened, the camp was located on the north side of the South Fork Merced River. In 1930 the camp was held in a meadow approximately 1 mile west of the current location. The existing camp has been in place on the 30.45-acre site since 1931, with construction of the existing camp facilities beginning at this time.

Camp Wawona has functioned as a recreational children's camp since its inception. Historically, activities at the camp were usually restricted to the summer months, with occasional winter (holiday) activities. Year-round activities were facilitated by the introduction of power to the camp circa 1949. Facilities at the camp include: staff cabins, bathhouses, various sheds, a learning center, a dining hall, and outdoor support facilities. Today, activities at the camp include horseback riding, archery, camping, swimming, and numerous other outdoor activities.

4.5.3 DOCUMENTED CULTURAL RESOURCES

WAWONA ARCHAEOLOGICAL DISTRICT

The Acting Superintendent's Headquarters and the Wawona Hotel and Pavilion located to the west of Camp Wawona are historic properties that have been placed on the National Register of Historic Places (NRHP). The project site is situated within the proposed boundaries of the Wawona Archaeological District, which contains important information on Native American settlement along the South Fork Merced River. The Wawona Archaeological District comprises 72 known prehistoric sites, including villages, rock shelters, light lithic scatters, and bedrock mortars. None of these documented sites are within the project site. The sites associated with the District are clustered along the river and generally appear to have been occupied in the late summer and early fall, when river flows were low and acorns were ripe. The Wawona Archaeological District has been found eligible for listing in the NRHP under Criteria A, C, and D, but has not been formally placed on the list.

Archaeological testing was conducted at 131 sites in Wawona Valley (Ervin 1984), within the Wawona Archaeological District. Materials recovered during the testing were generally consistent across the sites, with at least several of the sites appearing to date to the time of the Crane Flat complex.

ARCHAEOLOGICAL SITES

Staff from Yosemite National Park located two historic trash dumps during studies for a prescribed burn. The two historic-era sites are located near the western edge of the lands proposed to be exchanged from Yosemite National Park to the Seventh-day Adventists. Neither site has been formally recorded, but basic information was documented in the field. The first site, YOSE 1999L-5, consists of two features containing burned or crushed cans, glass fragments, and other domestic refuse which appears to date after 1930 (as evidenced by a dated Tennessee license plate in the deposit). The second site, YOSE 1999L-2, contains similar historic-era materials.

ARCHITECTURAL RESOURCES

The architectural inventory and evaluation conducted for the proposed action described 42 existing building and structures and Camp Wawona (EDAW 2003). Thirty of these properties are less than 45 years old, and do not possess exceptional values or significance. The remaining 12 resources that are more than 45 years old include: four cabins, three sheds, two residences, one store, one cafeteria, and one learning center (nature hall). As documented in the technical report, none of these 12 older structures are associated with significant people or events, they are not architecturally distinct or important, and do not contain information that would be important to our understanding of historical developments (EDAW 2003). Consequently, these resources do not appear to retain sufficient significance or integrity that would make them eligible for listing in the NRHP or the California Register of Historical Resources.

4.5.4 REGULATORY FRAMEWORK

FEDERAL

National Historic Preservation Act

Because of the proposed land exchange and the federal approval authority for discretionary actions in Section 35, the proposed action is considered a federal undertaking on the part of National Park Service under Section 106 of the National Historic Preservation Act (NHPA) of 1966 as amended, and its implementing regulations (36 CFR Part 800). Section 106 of the NHPA requires that, before approving any undertaking, a federal agency must take into account the effects of the undertaking on historic properties (i.e., resources listed in or eligible for listing in the National Register of Historic Places) and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on these actions. The Section 106 process has four basic steps:

- ▶ identify and evaluate historic properties;
- ▶ assess effects of the project on historic properties;

- ▶ resolve any adverse effects of the project on historic properties in consultation with the State Historic Preservation Officer (SHPO), possibly through preparation of a Memorandum of Agreement (MOA) that would define specific measures to avoid or mitigate impacts to historic properties; and
- ▶ proceed in accordance plan for resolving adverse effects.

Specific regulations regarding compliance with Section 106 state that, although the tasks necessary to comply with Section 106 may be delegated to others, the federal agency (in this case, the National Park Service) is ultimately responsible for ensuring that the Section 106 process is completed according to statute. Completion of the Section 106 process, including consultation with the SHPO, Native American tribes, and other interested parties, must be completed before the 18 acres of National Park Service land could be exchanged to the Seventh-day Adventists.

National Register of Historic Places

The NHPA authorizes the Secretary of the Interior to maintain and expand a National Register of Historic Places (NRHP), including districts, sites, buildings, structures and objects that are of significance in American history, architecture, archaeology, engineering and culture. Determining the NRHP eligibility of a site or district is guided by the specific legal context of the resource's significance as set out in 36 CFR Part 60.4. A property may be listed in the NRHP if it meets criteria for evaluation as defined in 36 CFR 60.4:

The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and:

- ▶ that are associated with events that have made a significant contribution to the broad patterns of our history;
- ▶ that are associated with the lives of persons significant in our past;
- ▶ that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- ▶ that have yielded, or may be likely to yield, information important in prehistory or history.

Programmatic Agreements

Two Programmatic Agreements (PAs) under Section 106 that are relevant to the proposed action have been signed by the National Park Service. The first is service-wide and was signed in 1995 by the National Park Service, the Advisory Council on Historic Preservation (ACHP), and the National Conference of State Historic Preservation Officers. The second PA is specific to Yosemite National Park and was signed in 1999 by the National Park Service, the ACHP,

and the California SHPO. The 1995 PA, under the terms of Stipulation IV.B.5, states that undertakings including “acquisition of lands for park purposes, including additions to existing parks” may be reviewed for Section 106 compliance purposes within the National Park Service, without further review by the ACHP or the SHPO. However, there is no similar provision in this PA for the transfer of public lands from the National Park Service to a private party.

The 1999 PA was intended as a supplement to the 1995 agreement, and includes requirements for consultation with Indian Tribes or other Interested Persons and stipulates that Yosemite National Park, in consultation with SHPO, shall evaluate the historical significance of all properties that may be affected by an undertaking. The 1999 PA also sets out guidelines for the assessment of effects, standard mitigating measures and minimum professional qualifications for those completing these steps.

As required, a letter was sent in the summer of 2003, advising the California SHPO of the proposed land exchange, and requesting SHPO review of the project (see Appendix B).

Other Historic Preservation Laws

Other federal laws also regulate activities within Yosemite National Park in regards to cultural resources. These include:

- ▶ Antiquities Act of 1906 (16 USC §431-433),
- ▶ Historic Sites Act of 1935 (16 USC §461-467),
- ▶ Archaeological and Historic Preservation Act of 1974 (16 USC §470aa-470ll),
- ▶ American Indian Religious Freedom Act of 1978,
- ▶ Archaeological Resources Protection Act of 1979 (16 USC §470),
- ▶ Native American Graves Protection and Repatriation Act, and
- ▶ Executive Order 11593.

STATE

The proposed action is subject to the requirements of the California Environmental Quality Act (CEQA), which provides guidelines regarding impacts on historic and prehistoric cultural resources. CEQA states that if implementation of a project would result in significant impacts on important cultural resources, then alternative plans or mitigation measures must be considered. However, only significant cultural resources need to be addressed. State CEQA Guidelines define a significant historical resource as “a resource listed or eligible for listing on the California Register of Historical Resources” (CRHR) (Public Resources Code §5024.1). A historical resource may be eligible for inclusion on the CRHR if it:

- ▶ is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- ▶ is associated with the lives of persons important in our past;

- ▶ embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- ▶ has yielded, or may be likely to yield, information important in prehistory or history.

In addition, the State CEQA Guidelines require consideration of unique archaeological sites (§15064.5). If an archaeological site does not meet the criteria for inclusion on the CRHR, but does meet the definition of a unique archeological resource as outlined in the Public Resource Code (§21083.2), it may be treated as a significant historical resource.

The following steps, which are similar to the procedural steps required under 36 CFR 800, are normally taken in a cultural resources investigation to comply with CEQA:

- ▶ identify cultural resources,
- ▶ evaluate the significance of the cultural resources based on established thresholds of significance,
- ▶ evaluate the effects of a project on all cultural resources, and
- ▶ develop and implement measures to mitigate the effects of the project on significant cultural resources.

4.6 HYDROLOGY AND WATER QUALITY

This section describes existing information on the hydrologic setting of the proposed action area, relevant water quality conditions and issues, and the regulatory setting under which the proposed action must be considered. This information is based on a review of available literature, including relevant planning documents.

4.6.1 ENVIRONMENTAL SETTING

HYDROLOGY

Camp Wawona is situated in a mountainous valley adjacent to the South Fork Merced River, a designated Wild and Scenic River. Annual precipitation is about 40 inches per year (in/yr), with most moisture falling in the form of rain and snow during the winter months. Summers in the western foothills of the Sierra Nevada tend to be generally dry, although storms associated with monsoonal flows are not uncommon. As reflected in a preliminary drainage report prepared for the project (Lars Andersen & Associates 2002), the intensity of the largest rain storm predicted to recur in the project area, at a frequency of once every 2 years, is 4 inches of rain in a 24-hour period. Snowfall (included in the total annual precipitation amount) averages about 74 in/yr.

Flow in the South Fork Merced River, which is located approximately 400 feet to the north of Camp Wawona, ranges from very low flow (< 5 cubic feet per second [cfs] during August through October) to peak flood flows in April following the spring snowmelt. The South Fork Merced River is a popular recreational resource for canoeing, rafting, swimming, and passive enjoyment.

Surface drainage is generally not well defined within the project area, particularly on the existing Seventh-day Adventist property. Surface ground slopes range from less than 5% to a limited area that is over 30%; slopes on the majority of the property are in the range of 10% to 20%. Surface drainage is routed generally from south to north toward the South Fork Merced River. During heavy rainfall, runoff over the majority of the property most likely occurs as overland sheet flow or small swale flow. The National Park Service property being considered for exchange to the Seventh-day Adventists, and for redevelopment of camp facilities, contains two identifiable small swales that flow north to the South Fork Merced River.

Groundwater is located in the upper unconsolidated alluvial fill of the river valley and lower fractured rock aquifers that have not been defined (NPS 2000a). The deeper fractured granitic rock aquifers contain the majority of the water. Fractured granitic rock aquifers typical of the Sierra Nevada can be highly variable for groundwater flow and supply. Drilling tests in the Wawona area by the U.S. Geological Survey have indicated a local, shallow groundwater flow system sustained by groundwater from deeper fractures (NPS 2000c). Groundwater in the local, shallow aquifer likely does not circulate deeper than approximately 250 feet below the surface. Short-term pumping tests on domestic wells in 1995 indicated that the median yield of wells is less than 5 gallons per minute from the shallow aquifer in Wawona.

(NPS 2000c). Currently, approximately 100 wells in Wawona supply about 260 private residences and a store (NPS 2000c).

WATER QUALITY

Water quality throughout Yosemite National Park is considered to be good, and is generally above state and federal standards (NPS 2000a). Surface water quality of the South Fork Merced River is characterized by near excellent conditions in most areas, but with some water quality stresses near human development. Studies have indicated a presence of *Giardia lamblia* and fecal coliform in various surface waters throughout the park, thereby limiting direct consumption of surface water by humans. The South Fork Merced River is the source for a community water system in Wawona that supports residences and all government and concession facilities. Neither the main stem of the Merced River nor the South Fork Merced River is listed as impaired on the Environmental Protection Agency 303(d) list of water quality limited segments.

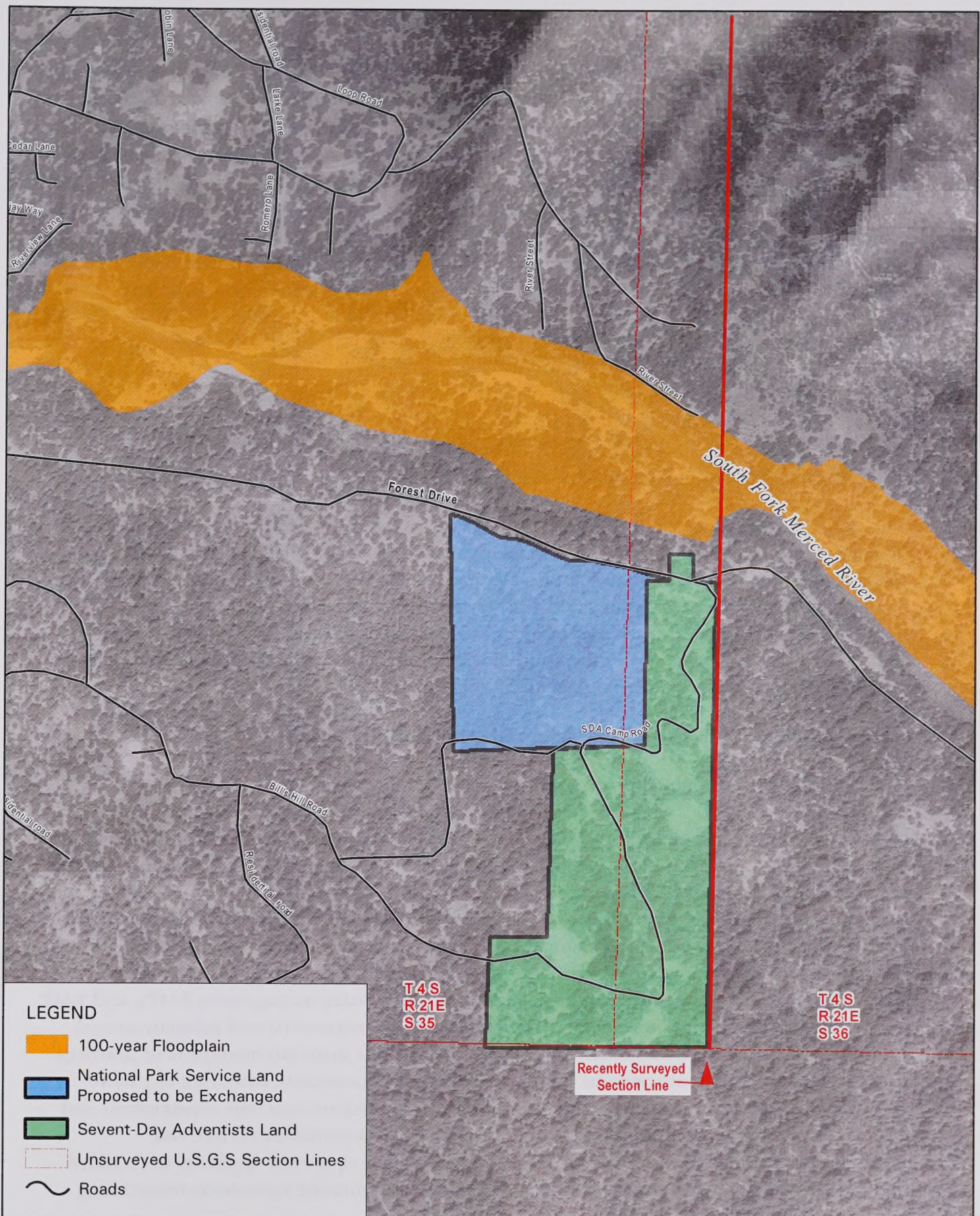
4.6.2 REGULATORY FRAMEWORK

STORM DRAINAGE MANAGEMENT

Storm drainage plans are required for all developments where deemed necessary by the chief building inspector pursuant to Chapter 15.28.110 of the Mariposa County Code. The purpose of a storm drainage plan is to ensure that drainage facilities for the development will not result in stormwater runoff that could cause flooding, ponding, soil erosion, or sediment production and sediment pollution. In general, the release rate of stormwater from all parts of the development may not exceed the stormwater runoff rate from the area in its previous undeveloped state for all intensities and durations of rainfall. The Land Use Policy and Standards of the Wawona Town Planning Area Specific Plan places a maximum residential lot coverage (i.e., of structures) that is the smaller of 40% or 4,000 square feet to avoid adverse storm drainage runoff. However, this maximum square footage policy may be modified for the recreational/church camp use being considered for the proposed action, since Camp Wawona is not a traditional residential development, and the proposed facilities would occupy considerably less than 40% of the total property area.

FLOODPLAIN MANAGEMENT

The South Fork Merced River floodplain is a well-defined feature that carries flood events. The 100-year floodplain, as shown in Figure 4.6-1 is located approximately 50 feet to the north of Forest Drive (Federal Emergency Management Agency 1995). The floodplain is a dynamic area that provides temporary storage for sediment eroded from higher elevations in the watershed. Periodic flooding provides sediment and nutrients that are essential to the biologic health of the river and the adjacent floodplain. The floodplain is located north of Forest Drive, outside the area being considered for redevelopment. The Land Use Policy and Standards of the Wawona Town Planning Area Specific Plan prohibit construction of residential structures within the floodplain.



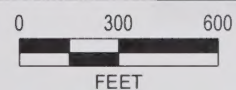
Sources: Yosemite National Park 2000, U.S.G.S 1993, Federal Emergency Management Agency 1995

South Fork Merced River 100 Year Floodplain

Camp Wawona Redevelopment and Land Exchange EIR/EA

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FIGURE 4.6-1



EDAW

WATER QUALITY REGULATIONS

Surface water and groundwater resources and their associated water quality are regulated in California through many laws, regulations, and ordinances administered by local, state, and federal agencies. Water quality regulations and permitting processes are designed to limit the discharge of contaminants to the environment, maintain surface water and groundwater quality at existing levels, protect fish and wildlife and their habitats, and protect other designated beneficial uses. The Central Valley Regional Water Quality Control Board (RWQCB), under authority of the state Porter-Cologne Water Quality Control Act and pursuant to the federal Clean Water Act, maintains and periodically updates the Water Quality Control Plan (Basin Plan). The Basin Plan identifies beneficial uses of water bodies in the region and establishes water quality objectives to ensure that these beneficial uses are protected (Central Valley Regional Water Quality Control Board 1998). Most discharges of wastes to land and waters of the state must be authorized by the RWQCB, which implements its authority under the Basin Plan primarily through the issuance of Waste Discharge Requirements (WDRs) or National Pollutant Discharge Elimination System (NPDES) permits.

The Basin Plan does not identify specific beneficial uses for the South Fork Merced River. Therefore, by virtue of the RWQCB “tributary rule,” the designated beneficial uses for the main stem of the Merced River are applicable to its tributaries. Existing beneficial uses include contact and noncontact recreation, cold and warm freshwater habitat, irrigation and hydropower. Municipal supply is listed as a potential use of Merced River, however, as noted above, the Town of Wawona uses the South Fork Merced River for municipal supply, and the RWQCB is obliged to regulate the river to protect that use.

National Pollutant Discharge Elimination System (NPDES) Permit

The proposed action could expose more than 1 acre of disturbed construction area to stormwater runoff, and is thus subject to the NPDES stormwater permit for general construction activity administered by the RWQCB. Prior to construction, the applicant would have to file a Notice of Intent (NOI) to discharge stormwater to the RWQCB and prepare and implement provisions of a Stormwater Pollution Prevention Plan (SWPPP) to control contaminated runoff from temporary construction activities. The SWPPP provides the plans and specifications for erosion and sediment best management practices (BMPs), means of waste disposal, implementation of approved local plans, post-construction sediment and erosion control BMPs and maintenance responsibilities, non-stormwater management BMPs, and BMP performance inspection requirements. The construction contractor(s) and subcontractor(s) would also be required to implement appropriate hazardous materials management practices to reduce the possibility of chemical spills or releases of contaminants, including any non-stormwater discharge to drainage channels. Standard hazardous materials management and spill control and response measures serve to minimize the potential for surface and groundwater contamination. The NPDES regulations also require the applicant to consider implementation of permanent post-construction BMPs to minimize operations-related long-term stormwater runoff effects.

Activities during construction that might involve the removal of surface water (known as “dewatering”) that would be discharged to offsite surface waters also require NPDES authorization under the Central Valley RWQCB general order for dewatering and other low-threat discharges to surface waters (Order No. 5-00-175). This permit requires submittal of an NOI prior to the activity that verifies the dewatering will occur in compliance with applicable water quality objectives.

County Regulations

Mariposa County grading and erosion control regulations (Chapter 15.28.030 Mariposa County Code) apply to projects under a number of situations depending on the area of disturbance, depth of cut, depth of fill, and whether activities occur in floodplains. The county regulations provide a local enforcement mechanism for requiring corrective measures should development result in erosion control problems. The NPDES and county regulations serve to minimize erosion hazards and associated sedimentation, flood hazards, and water quality impairment. Prior to construction, the applicant would have to apply for appropriate grading permits.

4.7 GEOLOGY AND SOILS

This section describes the geology and soils of the project area, with an analysis of potential impacts that would result from implementation of the proposed action. This section is based on a review of available literature from the National Park Service, California Division of Mines and Geology, U.S. Natural Resources Conservation Service, and the Mariposa County General Plan.

4.7.1 ENVIRONMENTAL SETTING

GEOLOGIC UNITS

Yosemite National Park is world-renowned for its scenic geologic features including massive, near-vertical granite walls. The park, which ranges from elevations of 2,000 feet in the west to over 13,000 feet in the eastern part of the County, contains numerous granite peaks such as El Capitan and Half Dome. Underlying rock types in Yosemite National Park include ordinary granite, tonalite, diorite, pegmatite, and aplite which are all part of the Sierra Nevada batholith (NPS 2000a). Many of these dark rocks contain traces of older sedimentary layers. The landscape is atypical of glaciated mountain valleys in that the valleys are much straighter, with higher and steeper walls than the usual glaciated valleyscape. This unusual formation is due in part to the deep, vertical fractures found in this particular granite.

The Wawona area is located along the South Fork Merced River near the entrance to the Yosemite Valley. The South Fork Merced River carved a valley with gentler slopes than the Yosemite Valley. Topography is characterized by gentle slopes near the river to steeper inclined slopes further away from the valley.

SEISMICITY, GROUND SHAKING, AND FAULTS

The Sierra Nevada range in Yosemite National Park is not considered an area of particularly high seismic activity (NPS 2000a). The majority of Mariposa County falls within the low-risk category for seismic activity (County of Mariposa 2003c). No active or potentially active earthquake faults have been identified in the mountain region of Yosemite National Park (California Division of Mines and Geology 1990). The park can undergo seismic shaking associated with earthquakes on fault zones to the east and west margins of the Sierra Nevada range, as has occurred in the past. These fault zones include the Foothills fault zone, the volcanically active area in the Mono Craters – Long Valley Caldera area, and along the various faults within the Owens Valley fault zone (California Division of Mines and Geology 1996).

Although earthquakes felt by people in Yosemite National Park are relatively infrequent, they have occurred in the past and are likely to occur in the future. The potential estimated peak horizontal accelerations produced by the various regional faults in the central California and Sierra Nevada region are relatively low (California Division of Mines and Geology 1999). No earthquakes with a magnitude above 5.0 have occurred in Mariposa County between 1800 and

the present (County of Mariposa 2003a). There were a number of earthquake incidents in 1997, but all were of magnitude 2.7 or less.

Most people would likely feel ground shaking during a seismic event of this magnitude, but structural damage would be negligible to slight in buildings constructed according to modern building standards.

SOILS

Soils in Yosemite National Park were mapped by the Natural Resource Conservation Service (NRCS) in 1991 (NPS 2000a). Soils are scattered throughout the park where bedrock weathering has occurred. Glacial soils are principally associated with terminal moraines. Park soil textures vary from fine clay to fine gravel. Most soils have a relatively undeveloped profile, indicating their relatively recent origin and young geologic age.

Soil types in the Wawona area are primarily developed from residual parent material on the steeper slopes away from the South Fork Merced River floodplain and alluvial in the river valley (NPS 2000a). Soil depth in the South Fork Merced River valley varies from 2 to 4 feet above bedrock; these soils are moderately to strongly acidic. The six major soil types are distinguished by their textures and the amount and type of rock fragments they contain. Limitations on use associated with these soil types are presented in Table 4.7-1 (NPS 2000a).

The soils specific to the Camp Wawona project site have not been classified. The NRCS is in the process of updating soil descriptions for soil types in Yosemite National Park, and conducted extensive soils testing throughout the area in 2001 (Arroues, pers. comm., 2003). NRCS has not determined whether the recent soil samples will be classified by types or by classification/landform. A total of 453 soil samples were conducted in the area, including 2 samples within the Wawona quadrangle, however, only about 100 of the samples were sent to a laboratory for detailed analysis. Two classifications were identified for the samples (pedons) collected near Wawona. Pedon 386 was classified as coarse-loamy, isotic soil (Typic Dystroxerept) and Pedon 387 was classified as coarse-loamy, osotic (Ultic Haploxeralf).

Table 4.7-1 Wawona Land-Use Limitations Based on Soil Type				
Soil Type	Roads	Structures	Campgrounds	Picnic Areas
Soboba stony loamy sand	Slight	Severe	Moderate	Moderate
Kimmerling silt loam	Severe	Moderate	Severe	Severe
Calpine sandy loam	Moderate	Moderate	Severe	Moderate
Musick sandy loam	Severe	Moderate	Severe	Severe
Chaix coarse sandy loam	Severe	Moderate	Severe	Severe
Stump springs coarse sandy loam	Severe	Moderate	Severe	Severe
Source: National Park Service. 2000. Final Yosemite Valley Plan Supplemental Environmental Impact Statement. Washington, D.C.				

Soils Hazards (Erosive Soils and Expansive Clays)

Erosion is a natural ongoing process that transports materials from a position of higher energy or elevation to a position of lower energy or elevation. High erosion potential in soils is primarily affected by loose texture and steep slopes. Loose soils can be eroded by water or wind whereas clayey soils are normally susceptible only to water erosion. Excessive erosion generally arises when people intervene and accelerate the natural erosion process. Most of the soil types found within the Wawona area (Table 4.7-1) are subject to erosion after disturbance or loss of vegetative cover (NPS 2000a). The erodibility of the recent sample collected by NRCS for the Wawona quadrangle was not characterized (Arroues, pers. comm., 2003).

Expansive soils are a common source of damage to building foundations, roads, and other facilities. Expansive soils are generally made up of clays containing montmorillonite and other minerals that swell under wet conditions and shrink under dry conditions. Damage to structures, such as cracking of foundations, could result from differential movement and several alternating periods of shrink and swell. In the program area, the preliminary NRCS soil testing results indicate that clay content is very low and the soils are not considered expansive (Arroues, pers. comm., 2003).

4.7.2 REGULATORY FRAMEWORK

The following subsection is a brief summary of the regulatory context under which soils and geologic hazards are managed at the federal, State, and local levels.

SEISMIC AND STRUCTURAL SAFETY

The State of California provides minimum standards for building design through the California Building Standards Code (California Code of Regulations (CCR), Title 24). The California Uniform Building Code (CUBC) is based on the Uniform Building Code (UBC) used widely throughout the U.S. (generally adopted on a state-by-state or district-by-district basis), and has been modified for California conditions with numerous more detailed and/or more stringent regulations. Where no other building codes apply, Chapter 29 regulates excavation, foundations, and retaining walls; and Chapter 70 regulates grading activities, including drainage and erosion control. The state earthquake protection law (California Health and Safety Code §19100 et seq.) requires that buildings be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety requirements are set forth in Chapter 23 of the UBC. Installation of underground utility lines must comply with industry standards specific to the type of utility (e.g., National Clay Pipe Institute for sewers and American Water Works Association for water lines). These standards contain specifications for installation and design. State regulations and engineering standards related to geology, soils, and seismicity are reflected in the Mariposa County building standards. Construction and design would be required to comply with the latest standards at the time of construction. Both the UBC and County require preparation of a geotechnical study to identify site-specific conditions. The results of such geotechnical studies provide design criteria that ensure structural integrity and public safety of proposed development,

particularly during seismic events. Issues addressed include seismic design, slope protection, and ongoing engineering/geotechnical review, as well as site preparation, grading, and foundation design, as stipulated in the UBC and local building regulation. The recommendations of the geologic and soils reports must be incorporated in the design of foundations and buildings. Earthquake-resistant design and materials are required to meet or exceed the current seismic engineering standards of the UBC Seismic Zone 3 or 4 requirements, depending on the location.

EROSION CONTROL

The primary concern with erosion relates to increased sedimentation in receiving water from construction site runoff and urban development. Regulations pertaining to the management of erosion/sedimentation as they relate to the protection of water resources are summarized in Section 4.6, Hydrology and Water Quality, of this EIR/EA. Mariposa County grading and erosion control regulations (Chapter 15.28.030 Mariposa County Code) apply to projects under a number of situations depending on the area of disturbance, depth of cut, depth of fill, and whether activities occur in floodplains. The chapter sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments; establishes the administrative procedures for issuance of permits; and provides for approval of plans and inspection of grading construction and all grading specific to single parcel site improvements. The county regulations provide a local enforcement mechanism for requiring corrective measures should development result in erosion control problems.

MARIPOSA COUNTY GENERAL PLAN POLICIES

The April 2003 Draft Mariposa County General Plan Update includes new policies for the protection of soil resources. However, the General Plan Update has not been formally adopted and these policies are not technically applicable at this time. The relevant policies in the Draft General Plan Update are:

Implementation Measure 11-6a(1): During the short-term planning period, review and amend the County Grading Ordinance adding provisions (1) requiring erosion control on all development projects; (2) for monitoring of project grading to assure compliance and (3) prohibiting grading without a concurrent project application.

Implementation Measure 11-6a(2): Every five years, review and update the provisions of the County Grading Ordinance to incorporate appropriate Best Management Practices (BMP) for erosion control.

WAWONA TOWN PLANNING AREA POLICIES

The April 2002 version of the draft Wawona Town Plan contains the policy that developments on sites with slopes over 10% shall be engineered, and cuts and fills shall be avoided. No similar provision is included in the adopted WTPASP.

4.8 AESTHETICS AND VISUAL RESOURCES

4.8.1 ENVIRONMENTAL SETTING

The proposed action site is located on private land within the boundaries of Yosemite National Park. Camp Wawona, located along Forest Drive, contains various camp buildings and developed activity areas (e.g., swimming pool, horse stable). The proposed action site is nestled in a heavily forested area, with largely undeveloped lands surrounding the site. The proposed land exchange and redevelopment area lies west of the camp on relatively undisturbed, heavily forested land. The camp and redevelopment area are located on sloped topography at approximately 4,200 feet, with the slope generally facing to the north. Several recreational trails are located east and south of the proposed action site. The South Fork Merced River is located north of the site. Several scattered private residences are located along Forest Drive.

REGIONAL SETTING

Yosemite National Park

Yosemite National Park lies on the western slope of the Sierra Nevada, a massive mountain range dividing central and northern California from more arid lands to the east. The Sierra Nevada is the highest and most continuous mountain range in California, extending approximately 450 miles north to south and averaging approximately 100 miles wide. Elevations in the park range from approximately 2,000 to 13,114 feet. The total area within the park's authorized boundary is 761,266 acres.

As recognized in the Merced Wild and Scenic River Comprehensive Management Plan, "the scenery of Yosemite National Park is one of its most significant resources and is largely responsible for the enormous popularity of the park. Steep valley and canyon walls, clear air, spectacular rock formations, and panoramic views combine to offer a wealth of visual resources nearly unsurpassed in the United States. As people move through the varied topography and vegetation along sections of the valleys and canyons that characterize the Merced River...they experience a sequence or pattern of visual resources that in effect give a cumulative visual experience... Protecting this pattern of visual resources is as important as protecting any one visual resource" (NPS 2001c).

MARIPOSA COUNTY

Mariposa County is characterized by forested ridges and valleys, grasslands and rolling hills, free-flowing rivers and streams, and historical landmarks. Uncluttered hillsides and ridge tops add value to land and homes in the County, and to the quality of the visitors' experiences. The rural foothill and high-Sierra viewsheds are among the most important scenic values in the County.

TOWN OF WAWONA

Wawona, at an elevation of about 4,000 feet, is located near the confluence of Chilnualna Creek and the South Fork Merced River. Wawona is divided physically by the South Fork Merced River into “north” and “south” Wawona. The terrain is characterized by flat areas and gentle slopes near the South Fork Merced River, with steeper slopes further away from the river. Wawona is a highly visited town within Yosemite National Park (County of Mariposa 2001a and 2001b). The landscape is densely forested, creating attractive views of nearby wooded slopes, and limiting more distant vistas. The older structures in Wawona contribute to the aesthetic character and perception of the community.

SOUTH FORK MERCED RIVER

The proposed action is situated within Section 35, an area of mixed public and private land within Yosemite National Park, and within the area managed under the Merced Wild and Scenic River Comprehensive Management Plan. The zoning and resource protection overlays associated with the South Fork Merced River (see Figure 6-1) do not apply to private lands. The proposed action site lies within zone 3C-Park Operations and Administration, and is adjacent to areas zoned 1B-Trailed Travel (Wilderness Zone) and 2B-Discover (Diverse Visitor Experience Zone). The Wild and Scenic River Act designation of the river through the Town of Wawona is Recreational (see Chapter 6 for a detailed analysis). The river segment adjacent to the proposed action is designated as Segment 7 of the Outstanding Remarkable Values category. This segment of river has the following values: Scientific, Scenic, Recreation, Biological, and Cultural (NPS 2001c).

4.8.2 REGULATORY FRAMEWORK

FEDERAL

On August 15, 1916, Congress created the National Park Service with the National Park Service Organic Act (PL 64-235, 16 USC §1 et seq., as amended). This act, as reaffirmed and amended in 1970 and 1978, establishes a broad framework of policy for the administration of national parks:

The Service thus established shall promote and regulate the use of the Federal areas known as National Parks, Monuments, and Reservations...by such means and measures as to conform to the fundamental purpose of the said Parks, Monuments, and Reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

The Wild and Scenic Rivers Act of 1968 as amended (PL 90-542; 16 USC 12371-1287). This act identifies distinguished rivers of the nation that possess remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values; preserves the rivers' free-flowing condition; and protects their local environments. The Merced River in Yosemite

National Park was designated a Wild and Scenic River in 1987. The passage of Public Law 100-149 on November 2, 1987 and Public Law 102-432 on October 23, 1992 placed 122 miles of the main stem and South Fork Merced River into the Wild and Scenic River System (Department of the Interior 2000).

YOSEMITE NATIONAL PARK PLANS

Merced Wild and Scenic River Comprehensive Management Plan

The Merced Wild and Scenic River Comprehensive Management Plan provides a decision-making framework for future management actions within the Merced River corridor. This will be accomplished through the application of a consistent set of criteria and considerations composed of seven management elements: boundaries, classifications, Outstandingly Remarkable Values, the Section 7 determination process, management zoning, the River Protection Overlay, and the Visitor Experience and Resource Protection framework.

Yosemite General Management Plan

The Yosemite General Management Plan restates the park mission in the following management objectives:

- ▶ conduct continuing research to gather and analyze information necessary for managing natural resources;
- ▶ restore altered ecosystems as nearly as possible to conditions that would exist had natural ecological processes not been disturbed;
- ▶ protect threatened and endangered plant and animal species and reintroduce, where practical, those species eliminated from the natural ecosystems;
- ▶ identify and perpetuate natural processes in park ecosystems;
- ▶ permit only those types and levels of use or development that do not significantly impair park natural resources, and direct development and use to environments least vulnerable to deterioration; and
- ▶ limit unnatural sources of air, noise, visual, and water pollution to the greatest degree possible.

The plan proposed boundary changes and acquisitions, extensive changes to developed sites, and removal of cars from Yosemite Valley as a long-term goal. Decisions by the National Park Service, including those associated with the proposed action, are made in consideration of the management objectives states in the General Management Plan.

Yosemite Valley Plan

The National Park Service recently developed the Yosemite Valley Plan to implement the goals of the General Management Plan in Yosemite Valley. The Yosemite Valley Plan is designed to meet the resource preservation and visitor experience goals in Yosemite Valley, including natural and cultural resource management and restoration, visitor services and recreational opportunities, transportation, and employee housing. The Yosemite Valley Plan included consideration of relocating some employee housing from Yosemite Valley to the Wawona area, but does not otherwise directly address goals and objectives specific to Wawona.

STATE

State Scenic Highway System

The California Department of Transportation (Caltrans) administers the California Scenic Highway Program. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to the highways. There is one designated State Scenic Highway in the general project vicinity – State Route 140 from Mariposa to Yosemite National Park, in Mariposa County. State Route 140 is located approximately 15 miles from Camp Wawona.

Two state highway segments are eligible for designation under the State Scenic Highways system. These highways are: State Route 41 from Yosemite National Park to Oakhurst, approximately four miles south of the proposed action; and State Route 49 through Mariposa County, located approximately eight miles away. The proposed action site is not visible from a designated state scenic highway, or any highway eligible for designation as a scenic highway.

National Scenic Byway System

State Route 120, which becomes the Tioga Pass Road in Yosemite National Park, is designated a National Scenic Byway. The Byway is located approximately 20 miles from the proposed action, and Camp Wawona is not visible from this road.

LOCAL

Mariposa County General Plan

The County General Plan, which was adopted in 1981, does not contain any elements related directly to aesthetic or visual resources.

Mariposa County General Plan Update

Policies included in the draft County General Plan Update 2003, which has not been adopted and therefore does not yet have legal effect, are presented below in case the updated General Plan is adopted prior to the completion of decisions on this project.

Rural Character

Policy 4.3-1a: New development shall accentuate, protect, or preserve the qualities of Mariposa life considered rural.

Economic Opportunity

Policy 4.3-4a: Cluster commercial and service development in planning areas.

Policy 4.3-4d: Establish siting criteria to provide areas for visitor recreation opportunities.

Natural Resource

Policy 4.3-5a: Managing natural resources shall permit a balance of both enjoyment and use.

Public Facilities

Policy 4.3-6b: Public facilities shall be sited with due consideration for area-specific issues.

Rural Residential

Policy 4.4-1g: Intensity of use shall be consistent with rural character.

Rural Economic Development

Policy 4.4-2d: Landscaping shall be an integral part of project design incorporating the existing landscape features of the site.

Wildlife and Vegetation

Policy 10.3-3b: Maintain the diversity of vegetative types in the County, with particular emphasis on native vegetation and landmark trees and groves.

Scenic Resources

Policy 10.6-1a: Establish measures to protect scenic resources and viewsheds.

Policy 10.6-1b: Maintain the visual character of designated scenic roads and highways.

Design Guidelines

Policy 13.6-1a: Development within historic districts shall enhance and improve historic scenery.

Mariposa County General Plan (April 2003)

Two additional policies related to aesthetic resources are incorporated in the most recent General Plan Update. These policies are specific to the Conservation and Open Space element, and are:

Conservation and Open Space

- Policy 11-1a: County programs and development standards conserve natural and scenic resources.
- Policy 11-b: Collaborate with other public agencies for conservation management plans and programs.

WAWONA TOWN PLANNING AREA SPECIFIC PLAN (1991)

This local plan, adopted in 1991 and directly associated with the County General Plan, includes two elements relevant to aesthetic and visual resource issues – fencing and lighting.

Fencing Standards

1. Except as specifically provided for in this section, no fence shall be erected in Wawona except for fences constructed of natural materials that allow for substantially unrestricted visibility from one side of the fence through to the other side of the fence. The maximum height of fences shall be three feet except for parcels of 1 acre or larger in size upon which a 4½-foot high fence is allowed provided the fence is set back a minimum of 40 feet from all property lines.
2. Privacy fences- Solid privacy fences with a maximum height of 6 feet and constructed of natural materials are allowed subject to compliance with all of the following standards:
 - i. The fence shall enclose an area not exceeding 50% of the footprint of the residential structure except that a minimum enclosure size of 500 square feet shall be allowed in all cases.
 - ii. The fence shall be attached to or within 25 feet of the residential structure and shall not extend farther into the front yard area than the residential structure. Private fences not attached to or within 25 feet of a residence shall also be allowed which encloses swimming pools, spas or other similar facilities. Such fences shall be the minimum size necessary to enclose the pool or spa and allow a 10-foot wide area between the edge of the pool and spa and the fence.
3. Temporary fences designed to protect a garden area or tree and not enclosing an area of greater than 400 square feet and constructed of materials that allow for substantially unrestricted visibility from one side of the fence through to the other side of the fence may be constructed at any location on a lot and shall have maximum height of 8 feet.

Lighting Standards

All exterior lighting shall be designed and located so as to confine lighting directly on the premises and shall not shine light upon other properties in the vicinity. A light source shall have a maximum output of 150 watts and shall not shine upon or illuminate directly on any

surface other than the area required to be lighted. Lighting shall not be of the type or in a location that constitutes a hazard to vehicular traffic, either on private property or on abutting private or public roads.

4.9 TRAFFIC AND TRANSPORTATION

This section describes the traffic and transportation context of the project area, including characteristics of existing usage of Camp Wawona. The traffic report prepared for this project is included as Appendix D. The analysis included an evaluation of existing conditions in the area based on current summer weekend afternoon peak hour traffic volumes, as well as average annual daily traffic volumes on study area roads. The characteristics of the proposed action, including estimated trip generation, and the directional distribution and assignment of the project traffic have been determined. National and local standards related to adequate levels of service and road standards are also provided.

4.9.1 DATA GATHERING

TRAFFIC COUNTS

To quantify existing traffic conditions in the study area, available traffic volume data was assembled and new traffic volume counts were conducted. Daily traffic volume counts conducted for the project applicant during July 2002 were obtained and verified. These data revealed that the peak traffic associated with operation of Camp Wawona occurs on Sunday in the early afternoon. New intersection turning movement counts were conducted in July 2003 at the Wawona Road/Forest Drive intersection. Information regarding off-season traffic volumes was obtained from available traffic counts. Based on this information, current annual average daily traffic volumes (AADT) were estimated for Forest Drive.

FIELD REVIEW

To provide a basis for considering the impacts of the Camp Wawona project on local roads, a field review was conducted to identify key features of the existing Forest Drive alignment. These features are described in Section 4.9.3.

4.9.2 REGULATORY SETTING AND ASSUMPTIONS

The study area includes facilities that are under the jurisdiction of both Mariposa County and the National Park Service. As a result, the context under which traffic conditions are evaluated varies by jurisdiction.

NATIONALLY RECOGNIZED STANDARDS

The National Park Service evaluates traffic conditions based on operating levels of service (LOS) derived from nationally recognized methodologies. Level of service is a quantitative measure of traffic flow conditions that can be applied to urban streets and rural highways, as well as signalized and stop-sign controlled intersections. The most relevant nationally recognized guide to the evaluation of the level of service is the 2000 Highway Capacity Manual (HCM). Levels of service based on the HCM have been used to address the existing operation of the Wawona Road/Forest Drive intersection. However, while the 2000 HCM addresses conditions on rural roads, it lacks a methodology for dealing with rural roadways as narrow as Forest Drive (i.e., less than 18 feet of pavement).

The 2000 HCM notes that level of service grades of A through F can be used to describe progressively worsening traffic conditions on roads and at intersections. In the case of intersections controlled by side-street stop signs, the length of delays experienced by motorists who must yield the right-of-way in order to pass through the intersection is the primary measure of the quality of traffic flow. Table 4.9-1 presents the general characteristics of each level of service grade.

Table 4.9-1 Level of Service Definitions			
Level of Service	Signalized Intersection	Unsignalized Intersection	Rural Roadway
A	Uncongested operations, all queues clear in a single-signal cycle. Delay < 10.0 seconds (sec)	Little or no delay. Delay < 10 sec/vehicle	Completely free flow.
B	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and < 20.0 sec	Short traffic delays. Delay > 10 sec/vehicle and < 15 sec/vehicle	Free flow, presence of other vehicles noticeable.
C	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and < 35.0 sec	Average traffic delays. Delay > 15 sec/vehicle and < 25 sec/vehicle	Ability to maneuver and select operating speed affected.
D	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and < 55.0 sec	Long traffic delays. Delay > 25 sec/vehicle and < 35 sec/vehicle	Unstable flow, speeds and ability to maneuver restricted.
E	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and < 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/vehicle and < 50 sec/vehicle	At or near capacity, flow quite unstable.
F	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/vehicle	Forced flow, breakdown.

Sources: 2000 Highway Capacity Manual, Transportation Research Board Special Report 209.

The American Association of State Highway and Transportation Officials (AASHTO) has assembled additional information in their publication “A Policy on Geometric Design of Highways and Streets” (AASHTO 2001). While this publication provides guidance for many issues associated with roadway design, specific guidelines for determining the need for left-turn lanes on rural roads are provided. These guidelines, which account for the amount of traffic and percentage of traffic attempting left turns, have been employed for this study.

MARIPOSA COUNTY GENERAL PLAN UPDATE CIRCULATION ELEMENT

Mariposa County has faced the issue of narrow rural roads and the County’s Draft General Plan Update Circulation Element includes guidelines for evaluating traffic conditions on low-volume rural roads.

The draft standards are based on daily traffic volume thresholds (Table 4.9-2). Specific roadway widths and surface treatments are then defined to allow traffic to flow in a manner commensurate with the expectations of County residents. Forest Drive would be classified as level of service 6, with a volume of 150 to 300 annual daily traffic (ADT).

Table 4.9-2 Mariposa County Level of Service Standards for Low-Volume Roads			
Mariposa County Level of Service	Volume Threshold	Description	Surface
1	<1,250 ADT	No lane < 12'; bridges minimum 12' lanes, typical travel speed of 35 mph or more	Paved in Good Condition
2	<1,250 ADT	No lane <12'; All bridges minimum 18' width; typical travel speed 35 mph or more	Paved in Fair Condition
3	<1,250 ADT	No lane <10'; bridges may be 15' tp 18' wide; typical travel speeds of 25 mph or more	
4	<1,250 ADT	Minimum total width of 18'; on a through road bridges may be one lane*; typical travel speed of 25 mph or less	
5	<1,250 ADT	Minimum total road width of 18', stream crossings with culverts of bridges, no fords, speed not a consideration	Paved
	< 300 ADT		Gravel in Passable Condition
6	> 300 ADT	No formal or active road maintenance association or zone of benefit	Gravel in Passable Condition
	<150 ADT		Dirt in Passable Condition
* On a local or dead-end road, if the bridge is less than 18 feet wide there must be a second point of access from the road basin for the road to be classified as LOS D or higher.			
Source: County of Mariposa 2003a			

4.9.3 ENVIRONMENTAL SETTING

This section describes current traffic volume levels and accompanying traffic operations on the roadways and intersections within the study area.

STREET SYSTEM

Regional access to Camp Wawona is primarily via State Route (SR) 41 and Wawona Road (the continuation of SR 41 through Yosemite National Park). From Wawona Road, Forest Drive extends east about 2 miles to Camp Wawona, which is located at the eastern end of the paved road. A National Park Service trailhead (to Chilnuana Falls) is located on Forest Drive several hundred feet to the east of Camp Wawona. The text that follows describes these facilities.

Wawona Road and SR 41

Wawona Road and SR 41 are paved, major arterial roads that link the southern Yosemite National Park area with the rest of the park and with the Oakhurst/Fresno metropolitan area to the south and west. SR 41 originates in Fresno County and continues north through Madera County, through Coarsegold and Oakhurst to Yosemite National Park's southern gate.

From that point the highway, under National Park Service management, continues through Yosemite National Park as Wawona Road.

In the vicinity of the proposed action, Wawona Road is a two-lane conventional highway with shoulders that range from 2 to 4 feet in width. Because of vertical changes, the alignment of the highway is classified as “rolling” under the parameters incorporated into the 2000 Highway Capacity Manual (HCM). The posted speed limit on Wawona Road is generally 40 miles per hour (mph), but varies depending on local conditions.

Forest Drive

Forest Drive is a local road that extends east from Wawona Road to provide access to the portion of the Town of Wawona that lies south of South Fork Merced River. The Wawona Road/Forest Drive intersection is controlled by a stop sign on the westbound Forest Drive approach. The western side of the intersection is an open, unpaved area used for informal parking. The portion of Forest Drive immediately east of Wawona Road provides access to the parking lots serving the Wawona general store and stables. In this area the roadway is about 18 feet wide. Forest Drive continues for about 2 miles to Camp Wawona and terminates at a trailhead a few hundred feet east of the camp. In this area the roadway ranges from about 11 to 15 feet in width, as Forest Drive generally follows the natural terrain along the south side of South Fork Merced River.

Portions of Forest Drive are under the jurisdiction of the National Park Service and other areas are located within the jurisdiction of Mariposa County. While the precise ownership and management responsibilities between the two public agencies are complex, Mariposa County generally controls the portion of Forest Drive east of the Koon Hollar Road intersection located about 1 mile east of Wawona Road. The portion of Forest Drive between Wawona Road and the Koon Hollar Road intersection is generally under National Park Service jurisdiction. The posted speed limit on Forest Drive is 15 mph.

Emergency Access

Forest Drive terminates east of Camp Wawona, and there are no paved roads that provide alternative access to or egress from Camp Wawona. The local road network includes dirt roads that allow motor vehicle traffic from the southern end of the camp to the south and west. This road system provides vehicular access to Koon Hollar Road and Wawona Road.

NON-AUTOMOTIVE CIRCULATION

The Wawona area is served by a shuttle system maintained by the National Park Service, and pedestrians and bicyclists use Forest Drive as an alternative to the private automobile. Some of the visitors to Camp Wawona arrive by charter bus, although the number of buses used is very small (i.e., approximately two buses each weekend).

Pedestrian and Bicycle Facilities

The study area has pedestrian trails that provide access to local attractions. There are two designated pedestrian crossings on Forest Drive that link the parking area near Wawona Road with the South Fork Merced River and with other local attractions. These crossings are within 0.25 mile of Wawona Road. There are no designated pedestrian or bicycle facilities along Forest Drive east of the parking area near the gift store. Pedestrians and cyclists share the roadway with automobiles because shoulder widths are limited.

EXISTING TRAFFIC VOLUMES

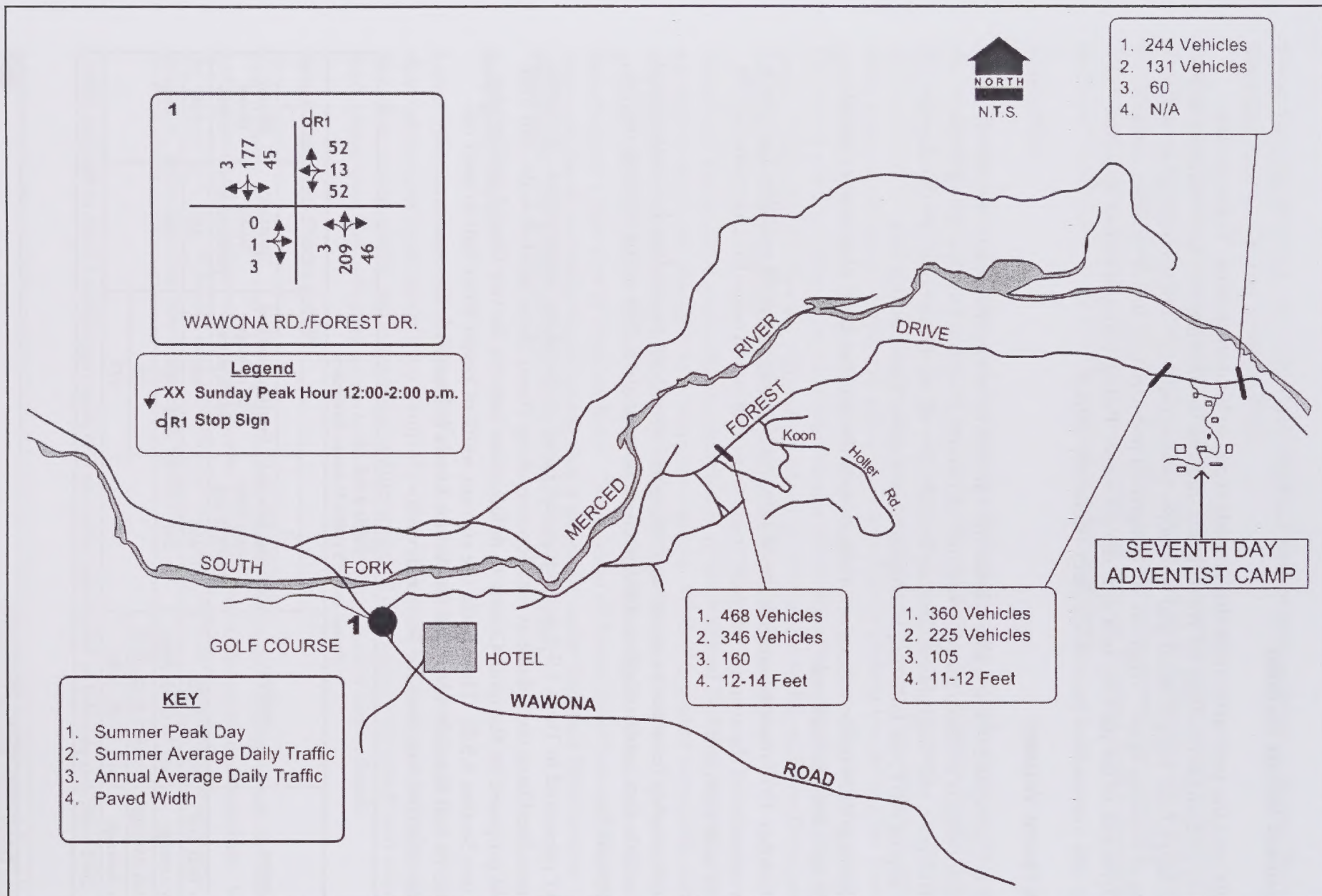
Figure 4.9-1 presents current traffic volume information for study area roads. As shown, recent count data is available for peak summer conditions at several locations along Forest Drive. However, only intermittent data are available for off-season periods. To develop an average annual ADT, the following assumptions were made based on this data:

- ▶ the average daily traffic volume occurring during the summer 2002 observations would occur for 12 weeks each year
- ▶ the October 1976 observation from the WTPASP is the only currently available data that is representative of the average “off-peak” conditions that would occur for approximately 40 weeks each year, and
- ▶ the relationship between “summer” and “off-peak” conditions can be based on comparison of available data, which suggests that the off-peak use is about 30% of the summer use (i.e., 66/225 ADT).

The ADT presented in Table 4.9-3 were estimated based on the above assumptions. As shown, on an annualized basis the volume at each location along Forest Drive falls below the 300 ADT threshold proposed by Mariposa County to differentiate between Service Level 5 and Service Level 6 (see Section 4.9.2). Thus, while the current width of Forest Drive fails to meet the minimum 18-foot standard identified for Service Levels 1 through 5, the road meets the minimum standards required for Service Level 6.

Table 4.9-3 Forest Drive Traffic Volume Summary					
Condition	Count Dates	Location			
		1	2	3	4
		West of Koon Hollar Road to Dumping Station (vehicles per day)	East of Koon Hollar Road to Camp Wawona (vehicles per day)	East of Camp Wawona (vehicles per day)	Difference between 2 and 3
Summer Peak Day	July 21, 2002	468	360	244	116
Summer Average	July 16 to 30, 2002	346	225	131	94
Off-Season Average	October 4-12, 1976		66		
Summer Average	July 16-23, 1987		347		

Source: 2002 traffic data provided by Seventh-day Adventists with project application; County of Mariposa 2003a



Source: KD Anderson Transportation Engineers

Existing Traffic Volumes and Pavement Widths Along Forest Drive

FIGURE 4.9-1

CURRENT PEAK-HOUR TRAFFIC CONDITIONS

Intersection Levels of Service

Current levels of service were calculated for a Sunday at the Wawona Road/Forest Drive intersection using the July 2003 traffic count data (refer to Appendix D for calculation worksheets) and are summarized in Table 4.9-4. As shown, the intersection currently operates at LOS B.

Table 4.9-4 Existing Summer Sunday Intersection Levels of Service			
Intersection	Control	12:00 – 2:00 PM Peak Hour	
		Average Delay	LOS
Wawona Road/Forest Drive (Overall)	East-/Westbound Stop	(12.5sec)	B
Northbound left turn		7.7 sec	
Southbound left turn		7.9 sec	
Eastbound Forest Drive Approach		10.4 sec	
Westbound Forest Drive Approach		14.2 sec	
Source: kdAnderson 2003			

EXISTING SAFETY ISSUES

As with many rural roads in Mariposa County, Forest Drive has evolved over many years from a dirt path to a paved road. The alignment of portions of the road follows the natural terrain along the south side of the South Fork Merced River. As a result, the road is generally narrow and sight distance is limited in some locations. Vehicles traveling in opposite directions are able to pass in some areas only if one motorist partially leaves the pavement onto available unpaved shoulders or pullouts. This situation is generally tolerated by local residents and frequent visitors who are aware of the condition of this low-volume road.

Features that could influence motorist and pedestrian safety include:

- ▶ pavement width,
- ▶ pavement condition,
- ▶ shoulder width,
- ▶ nature of roadside obstructions,
- ▶ availability of pullouts, and
- ▶ sight distance limitations created by vertical or horizontal alignment.

As indicated, no portion of Forest Drive east of the parking lot meets Mariposa County's standard for level of service grades 1 through 5 (i.e., minimum of 18 feet of paved width). Generally, the road remains passable for two-way travel, because opposing drivers can usually move one set of wheels onto the dirt shoulder. However, in several locations the clear space between obstructions is also less than the minimum 18-foot standard. When opposing vehicles

meet under these circumstances, one of the opposing motorists typically moves off the road at a location in advance of the obstacle to allow the other to proceed through the “bottleneck.”

This arrangement is typically satisfactory in areas where traffic volumes are low and where enough sight distance is available to allow approaching motorists to identify the bottleneck and see the other vehicle. If this is not the case, some level of inconvenience will occur and a safety issue can result when approaching vehicles meet at the bottleneck and one is required to back up to a wider spot in the road.

Review of available information regarding accident frequency on Forest Drive suggests that while some conflicts at bottlenecks may occasionally occur, these deficiencies have not resulted in a significant accident problem (Nabours, pers. comm., 2003). The extent to which an incremental increase in potential safety conflicts represents a significant impact was measured relative to recent accident experience along Forest Drive. Anecdotal information from County and National Park Service representatives indicates that while occasional “fender benders” have occurred, particularly near the parking lot adjacent to the Wawona Road/Forest Drive intersection, there have not been any accidents resulting in major injuries or loss of life. Thus, while it is possible that the incremental traffic increase resulting from the proposed action may increase vehicle conflicts on Forest Drive, the increase in serious accidents would not be significant.

The information concerning Forest Drive that was gathered during the filed review is summarized in Table 4.9-5.

BUS ACCESS

As noted earlier, charter buses travel to Camp Wawona to transport transient users. Review of the current condition of Forest Drive reveals that while it is possible for a full-size bus to negotiate this road, the bus would occupy most of the roadway, particularly in the more narrow sections. There would be few locations where motorists would feel comfortable attempting to drive past an on-coming bus. When a bus and passenger vehicle meet, it is likely that the driver of the smaller vehicle must look for a wide pull-out in order to leave room for the bus to pass. The number of pull-outs, especially in the areas of curves and other major obstructions (e.g., large trees adjacent to the road) is limited. However, there are no known documented accidents involving cars or buses accessing Camp Wawona (Nabours, pers. comm., 2003).

LEFT TURN LANES AT THE WAWONA ROAD/FOREST DRIVE INTERSECTION

Current peak hour volumes at the Wawona Road/Forest Drive intersection have been compared to AASHTO guidelines to determine whether left turn lanes are needed under current conditions. The volumes observed for this study (see Table 4.9-4) fall below the levels required to justify left turn lanes at this location.

**Table 4.9-5
Forest Drive Field Review Results**

Location	Pavement Width (feet)	Obstructions		Pull Outs Available?	Other Issues
		Clear Distance (feet)	Type		
From Parking Lot to east of Stables	15	18	Trees	No	
At Private Road A	14		Embankment	Limited	Crest (vertical curve) limits sight distance
East of Private Road A	13	16	Rock embankment & trees	No	
East of Lift Station # 2	14	18	Embankment & trees	Limited	
At Private Road B	14	20		Yes	Short (vertical curve)
At sewer manhole east of Private Road B	14	16	Uphill & downhill embankments	No	
From Private Road B to Private Road C	14	18	Small embankments	No	
From Private Road B to Private Road C	14	18	Steep drop off & tree	Yes	Crest (vertical curve)
East of Private Road D	14	19	Trees	No	
East of Private Road E	13	15	Power pole & trees	No	
West of Koon Hollar Road	14	18	Bollards, trees & sign	Yes	
At Koon Hollar Road	12	16	Drainage grate & trees	Yes	
East of Koon Hollar Road	12	16	Trees	Yes	
Curve east of Koon Hollar Road	12	13	Trees & embankment	Small	
Curve east of Koon Hollar Road	11	12	Power pole, tree & embankment	Small	
Koon Hollar Rd to Private Road E	12	15	Tree & embankment	Yes	
From Private Road E to Whispering Pines	12	14	Large stump & trees	No	
	12	15	Guy tree & embankment	No	
	12	17	Trees	Yes	
	11	14	Trees	Yes	
At Whispering Pines	12	16	Pole stump	No	
West of Private Road F	12	16	Tree & embankment	Yes	
West of Private Road F	11	13	Tree & embankment	No	
At Private Road F	11	13	Tree & embankment	No	
East of Private Road G	11	13	Stump & rocks	No	
East of Private Road G	10	12	Two trees	Yes	
From Private Road G to Camp Wawona	11	13	Trees, stumps & downhill embankment	No	

Source: kdAnderson 2003

4.10 PUBLIC UTILITIES AND SERVICES

This section contains a discussion of the existing public services and utilities for the project site and the surrounding area. Public services include: law enforcement, fire protection and emergency medical services, public schools, and parks. Utilities include: water service, wastewater service, solid waste service, electricity service, natural gas service and telephone service. The proposed action is not expected to significantly affect police protection, schools, parks, solid waste services, electrical, telephone, or natural gas services and therefore, these services will not be discussed in this section. County of Mariposa requirements for solid waste services will be met prior to approval of the proposed redevelopment.

4.10.1 ENVIRONMENTAL SETTING

The camp is located in the rural and somewhat isolated town of Wawona. The town of Wawona is located within the boundaries of Yosemite National Park (Yosemite) and so most of the public services and utilities are administered and maintained by Yosemite National Park and associated National Park Service services. Local government systems in Mariposa County (County) include the Mariposa County Public Utilities District (MCPUD), Mariposa County Unified School District (MCUSD), and the John C. Fremont Hospital District (JCFHD).

FIRE PROTECTION SERVICES

As mentioned above, the Town of Wawona is located within the boundaries of Yosemite National Park. The National Park Service, through the Yosemite Fire Department, provides fire protection services and emergency medical services for county lands within the park. The County reimburses Yosemite National Park annually. The California Department of Forestry (CDF) has a mutual aid agreement with the National Park Service and other surrounding federal land owners, and would respond, if necessary, to all wildland fires. There are no CDF or Mariposa County Fire Department stations in Wawona. The National Park Service operates the Wawona Fire Station (County of Mariposa 2003a).

According to the Camp Wawona Master Plan (Coats Consulting 2002), the camp operates and maintains its own fire suppression infrastructure. The camp has a fire station on the 30.45-acre property that houses a wildland fire engine with a 300-gallon capacity and a water truck with a 200-gallon capacity. In addition, the camp has three water storage tanks on the property with a total maximum storage capacity of 70,000 gallons of water. Currently, water lines consisting of two-inch-diameter pipe connect the water storage tanks to hydrants located throughout the camp.

In addition to fire protection services, Yosemite Fire Department responds to emergency medical situations, searches, rescues, and motor vehicle accidents in Wawona.

WATER SERVICE

Currently, the camp maintains its own water supply system by means of two functioning wells on the property. According to the Camp Wawona Master Plan, the upper well produces 12+

gallons per minute and the lower well 30+ gallons per minute. These wells supply the existing and projected water needs of the camp. The well system at Camp Wawona is tested each month.

WASTEWATER SERVICE

Most properties in Wawona were on septic systems until the National Park Service constructed a central sewer system in Wawona, and the Wawona Wastewater Treatment Plant. The camp was connected to the central sewer system in 1996. The sewer line parallels Forest Drive between the camp and the central part of Wawona, and is connected to the treatment plant that is located on the north side of the South Fork Merced River.

4.11 HAZARDS AND HAZARDOUS MATERIALS

This section discusses the presence of hazardous materials, public health, and public safety issues associated with the Camp Wawona project area – including the 30.45 acres of current Seventh-day Adventists property and the 18 acres of land owned by the National Park Service that would be exchanged.

4.11.1 HAZARDOUS MATERIALS

“Hazardous materials” are defined by the Transportation Safety Act of 1974 as “...Substance or materials in a quantity and form which may pose an unreasonable risk to health and safety or property when transported in commerce.” This basic definition has been broadly expanded to include dangerous chemicals from the moment of manufacture to the point of exit from a process. Generally, hazardous materials refer to chemicals that pose hazards to humans, the environment, or property. Examples of properties associated with hazardous materials include: explosives; compressed gases; flammable solids, liquids and gases; corrosive materials; etiologic or biological agents; radioactive materials; and poisons.

There is a certain degree of overlapping and interconnection between hazardous materials, hazardous substances, and hazardous wastes. Hazardous materials are generally transported and used in their raw state or as a process feedstock. Hazardous substances are designated in the U.S. Environmental Protection Agency (USEPA) hazardous materials table and refer to materials that have a “reportable quantity (rq)” associated with them. Hazardous wastes are waste process chemicals, off-specification, or spilled materials that meet either a certain characteristic or are specifically listed as being a hazard to human health or the environment. Consequently, a hazardous material can be a hazardous substance and a hazardous substance can be a hazardous waste if spilled.

4.11.2 ENVIRONMENTAL SETTING

DEVELOPMENT OF CAMP WAWONA

The Seventh-day Adventists have owned and operated Camp Wawona in this rural portion of Mariposa County for over 70 years. The camp provides youth-oriented services during the summer months for approximately 250-350 participants, with fewer users, including adults, during the remainder of the year. The camp was established in 1931 with initial acquisitions of the five-acre parcel from John Tyrell and the remaining three parcels from Margaret Christina by 1943. Two additional parcels adjacent to the South Fork Merced River were acquired in 1945 from Harriet Bruce Harris and Norris Udell (NPS 1997).

The land proposed for exchange from the National Park Service to the Seventh-day Adventists is contained within the parcels originally purchased from Margaret Christina in 1940 and 1943. Prior to 1940, the Christina family had used the land as a summer camping area, but had not established any improvements on this property. During the early 1900s (1905-1915) selective logging was conducted in the southeast section of Section 35, including the general

location of Camp Wawona. A small saw mill was established approximately 0.75 miles to the west of Camp Wawona, adjacent to Forest Drive, and furnished cut lumber for construction projects in Yosemite Valley (NPS 1997).

Under Seventh-day Adventist ownership, construction of facilities occurred incrementally over a 60-year period by volunteer efforts of church members. These facilities consist of various buildings on the project site, including several water storage tanks, propane tanks, a swimming pool and other infrastructure.

Phase 1 Environmental Site Assessment

The National Park Service conducted a Phase I Environmental Site Assessment on April 16, 1997 for Camp Wawona and the 18 acres of land to be exchanged by the National Park Service. The Phase 1 investigation indicated that there were no past or present uses that might indicate potential hazardous materials concerns on the Seventh-day Adventists property or the National Park Service lands proposed for exchange (NPS 1997).

4.11.3 REGULATORY FRAMEWORK

FEDERAL

Occupational Safety and Health Act

Congress passed the Occupational and Safety Health Act (29 USC §651 et seq.) in 1970 to ensure worker and workplace safety. The goal in establishing this act was to make sure that employers provide their workers a place of employment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions.

Comprehensive Environmental Response, Compensation, and Liability Act

This act, commonly referred to as CERCLA or the Superfund Act (PL 96-510, 94 Stat. 2767, 42 USC §9601 et seq.) was enacted by Congress to address growing concerns about the need to clean up uncontrolled, abandoned hazardous waste sites and to address future releases of hazardous substances into the environment. Applicable sites in Yosemite National Park are managed under the National Park Service CERCLA program. None of these sites are in proximity to the proposed action.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) (PL 94-580, 30 Stat. 1148, 42 USC §6901 et seq.) established a regulatory structure for the management of solid and hazardous waste from the point of generation to disposal. In particular, applicable provisions include those that address underground storage tanks and sites contaminated with elements identified under Federal and State Resource Conservation and Recovery Act regulations.

STATE

Department of Toxic Substances Control

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) is authorized by the State Environmental Protection Agency to enforce and implement federal hazardous materials laws and regulations. California regulations pertaining to hazardous materials equal or exceed federal regulations. Most state hazardous waste regulations are contained in Title 22 of the California Code of Regulations. The Department of Toxic Substances Control acts as the lead agency for some soil and groundwater cleanup projects, such as Annual Work Plan and Voluntary Cleanup Program sites, although most contaminated sites are overseen by other agencies, such as the Regional Water Quality Control Board. The Department of Toxic Substances Control provides cleanup and action levels for subsurface contamination; these levels are equal to, or more restrictive than, federal levels. The Department of Toxic Substances Control has developed land disposal restrictions and treatment standards for hazardous waste disposal in California.

LOCAL

County of Mariposa General Plan

No policies specific to hazardous materials were identified in the adopted County General Plan (County of Mariposa 1981).

County of Mariposa General Plan Update (April 2003)

While the updated General Plan has not been adopted, the following policies are described in the current version of this plan, and are listed below for informational purposes. Depending on the timing of adoption of the General Plan Update relative to the County decision on the proposed action, these policies may be enacted.

Policy 16-11a: Maintain the effectiveness of the Comprehensive Hazardous Waste Management Plan.

5 ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter describes the probable environmental consequences that could result from the proposed action and alternatives. This chapter describes the major elements of the impact analysis under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), including specific National Park Service requirements that are common to all resource topic areas. Following this introduction, an analysis of impacts within each resource area is provided. Within the resource sections, the CEQA and NEPA/National Park Service analysis is presented first for the proposed action, followed by the analysis for each of the project alternatives under consideration. A discussion of cumulative impacts is provided within each resource topic.

IMPACT ANALYSIS

The impact analysis provided for each resource area includes an assessment against thresholds for both CEQA and NEPA, including tentative interpretations relative to the National Park Service impact assessment requirements. The EA, to be circulated in conjunction with the Final EIR in the spring of 2004, will include the final assessment of impacts/environmental consequences in accordance with NEPA and National Park Service requirements.

Because of the differences between the state and federal standards, the analysis is presented separately for CEQA and then NEPA/National Park Service where necessary. Following this detailed analysis, including the presentation of mitigation measures that would avoid or reduce impacts, a summary paragraph is provided to describe the key aspects of both the CEQA and tentative NEPA/National Park Service analysis. This summary analysis assumes that the mitigating actions would be implemented as described. Consequently, the summary paragraph includes a statement as to the level of significance of each impact under CEQA (i.e., less than significant or significant following incorporation of the mitigation measures). Each resource-based impact analysis concludes with information on cumulative impacts and the potential for impairment of park resources and values.

CEQA THRESHOLDS

Thresholds for determining the significance of impacts under CEQA are described in the statute (Public Resources Code §21082.2) and in the CEQA Guidelines (§15064). The criteria define the circumstances that would lead to a significant effect on the environment, as defined by Public Resources Code §21068 and the CEQA Guidelines §15002(g) and §15382. CEQA significance conclusions are expressed as “significant” or “less than significant.” Where some uncertainty about the occurrence or magnitude of an effect exists, the term “potentially significant” may be used. For purposes of CEQA compliance, “potentially significant” effects are treated the same as “significant” effects. These standards are used in the impact analysis for each resource area, as described in detail in Sections 5.1 through 5.11.

NEPA/NATIONAL PARK SERVICE THRESHOLDS

The Director's Order (DO) 12 and the DO-12 Handbook (NPS 2001b) provide guidelines for implementing NEPA that consider both the regulations established by the Council on Environmental Quality (40 CFR 1500 et seq.) and mandates specific to the National Park Service. These guidelines for impact assessments include a discussion of the context, duration, intensity (or magnitude), and type of impact (NPS 2000a), as summarized below, and include direct, indirect, and cumulative effects. Within the sections following this introduction, a description as to how these concepts were used is presented for each resource topic.

- ▶ **Context.** The context considers whether the impact would be local or regional. For the purposes of this analysis, local impacts would be those that occur within the immediate vicinity of Camp Wawona, unless otherwise noted.
- ▶ **Duration.** The duration of an impact is noted as either short term or long term and is defined in a range of years.
- ▶ **Intensity.** Indicators of the intensity of an impact, whether it is negligible, minor, moderate, or major, are included in the impact analysis and specifically defined by issues relevant to the specific resource topical area.
- ▶ **Type.** The type of impact refers to whether the effect is considered beneficial or adverse. Beneficial impacts would improve resource conditions. Adverse impacts would deplete or negatively alter resources.

The impact analysis is based on a comparison with current conditions to evaluate the magnitude of proposed changes, and to assess the environmental effects of these changes. For the Camp Wawona project, the No Action Alternative would continue current land uses and management direction, but would necessitate removal of camp facilities that currently encroach on National Park Service lands (see Section 2.3.). Consequently, some ground disturbance and related impacts to certain resources would occur under the No Action Alternative. These impacts are described in the applicable resource sections.

FEDERAL LAND EXCHANGE REQUIREMENTS

Because the proposed action and several action alternatives involve the exchange of land between the National Park Service and a private property owner, consideration must be given to the consequences of the land exchange alone, independent of the impacts of the proposed redevelopment of Camp Wawona. The National Park Service must ensure that the exchange has a "demonstrable benefit" to the United States. When land is conveyed from federal management, as is proposed here, some federal laws, regulations, and policies previously governing the property no longer apply. Because these federal requirements are generally more stringent than those applicable to private land (e.g., specific provisions of the Federal Endangered Species Act and the National Historic Preservation Act that apply only to federal

agencies), the National Park Service considers resources that may be on the exchanged land to be “at risk.”

Normally, the National Park Service cannot offer protection of special-status plant species or archaeological sites on land it does not own or manage. In Wawona, however, private land is under the joint jurisdiction of the County of Mariposa and the National Park Service, as noted in the 1987 Memorandum of Understanding between those two agencies. Consequently, the National Park Service would remain a signatory to ministerial and discretionary permits on the lands proposed for exchange to the Seventh-day Adventists, even after the National Park Service no longer owns the land.

However, because the change in ownership would still affect management of the land by the National Park Service, the impact of exchanging resources of this nature from public to private ownership must be considered carefully. This potential impact is addressed further in this section for biological resources and cultural resources because these are important resource topics related to the proposed exchange. These resources also are provided special protection under federal law. Potential impacts related to the proposed exchange alone do not occur for other resource topics, such as air quality or noise, because environmental consequences originate from development actions or camp uses, rather than the transfer of the property title.

CUMULATIVE IMPACTS

Both federal and state environmental laws require the assessment of cumulative impacts to evaluate the potential that project-related impacts, when considered in combination with other past, present, and future projects, would represent a cumulative significant impact.

Guidance for addressing cumulative impacts under CEQA is provided in the CEQA Guidelines (§15355). Comparable guidance under NEPA is provided by the Council on Environmental Quality, which describes a cumulative impact as follows (40 CFR 1508.7):

A “cumulative impact” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Projects Considered in the Cumulative Impacts Analysis

The projects addressed in this cumulative analysis include past and present actions, as well as development activity currently being implemented or planned for implementation in the reasonably foreseeable future. Cumulative actions are evaluated in conjunction with the impacts of the proposed action and project alternatives to determine if they have any additive effects on a particular resource.

Because no new developments in the Camp Wawona area are underway, and no specific proposed actions are under consideration by the County or National Park Service, the

potentially new cumulative actions used for this analysis are based on approved agency plans. The preferred action alternative identified in the Yosemite Valley Plan Supplemental Environmental Impact Statement (NPS 2000a), Alternative 2, included an employee housing component that could affect the Wawona area. Specifically, Alternative 2 considered providing up to 198 employee beds (174 of which would be transferred from existing housing in Yosemite Valley) in Section 35, along the south side of Forest Drive, west of Camp Wawona. There are currently 112 employee housing beds located in Wawona, which are used primarily by National Park Service staff assigned to the Wawona District.

The National Park Service would prefer that these employee housing needs be met by private parties, but would construct housing on National Park Service property if needed to meet the employee housing demands. Lands in Section 35 that are zoned as 3C – park operations and administration – in the Merced River Plan could be used for that purpose. If housing needs for National Park Service in Wawona could not be met by private parties, it is the intent of National Park Service that development would be compatible with the existing character, density, and scale of existing developments in Section 35. Before implementation of any actions related to providing new National Park Service employee housing in Wawona, National Park Service intends to coordinate closely with local and county representatives to identify the best practical alternative. No specific plans to develop new employee housing in Wawona are currently under consideration.

The National Park Service had also considered the possible construction of a new campground in the Wawona area along the south side of Forest Drive, just west of Camp Wawona. However, a recent parkwide campground planning study (NPS 2002) determined that development of new campgrounds in this area was not supported due to limited recreational opportunities, lack of a sufficient utility infrastructure, site constraints (e.g., slopes), and possible conflicts with local residents. Therefore, there are no current plans to construct a campground along Forest Drive.

IMPAIRMENT

Impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. The need to analyze and disclose impairment impacts originates from the National Park Service Organic Act of 1916. The Organic Act established the National Park Service with a mandate “to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”

An impact is less likely to constitute impairment if it is an unavoidable result that cannot reasonably be further mitigated of an action necessary to preserve or restore the integrity of park resources or values (NPS 2000a). An impact is more likely to constitute impairment to the extent that it adversely affects a resource or value whose conservation is:

- ▶ necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park,
- ▶ key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- ▶ identified as a goal in the park's *General Management Plan* (NPS 1980) or other relevant National Park Service planning documents.

The evaluation of impairment of park resources was based on the type and intensity of impacts and the types of resources affected. Generally, beneficial impacts would not constitute impairment. With respect to the intensity of impacts, negligible and minor adverse impacts are not of sufficient magnitude to constitute impairment. Moderate and major adverse impacts may constitute impairment, but this potential must be analyzed with respect to the three bulleted criteria above. Impairment is generally considered relevant for recreational uses, and for geologic, hydrological, biological, cultural, and scenic resources. Impairment is addressed at the end of each impact topic.

5.1 LAND USE AND PLANNING

5.1.1 IMPACT METHODOLOGY AND ASSUMPTIONS

Effects of the proposed action and project alternatives were analyzed using guidelines prepared for both CEQA analysis and NEPA/National Park Service analysis, as described below. Assumptions relevant to the impact analysis are also described in this section.

CEQA THRESHOLDS

Implementation of the proposed action would have a significant land use-related impact under CEQA if it were to result in the following:

- ▶ physically divide an established community;
- ▶ conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the projects adopted for the purpose of avoiding or mitigating an environmental effect; or
- ▶ conflict with any applicable habitat conservation plan or natural community conservation plan.

NEPA/NATIONAL PARK SERVICE THRESHOLDS

Based on the National Park Service Director's Order #12: Conservation Planning, Environmental Impact Analysis, and Decision-making and its accompanying Handbook (NPS 2001b), significant land use and planning impacts would occur if the project would have measurable effects on physical, natural, or cultural resources as they relate to the following:

- ▶ land use (e.g., occupancy, income, values, ownership, type of use);
- ▶ other agency or tribal land use plans or policies;
- ▶ urban quality, gateway communities; and
- ▶ long-term management of resources or land/resource productivity.

The following guidelines were used to identify the context, duration, intensity (or magnitude) and type of impact (NPS 2000a).

- ▶ **Context.** The context considers whether the impact would be local or regional. For the purposes of this analysis, local impacts would be those that occur within the immediate vicinity of the proposed action, unless otherwise noted.
- ▶ **Duration.** The duration of an impact is noted as either short-term or long-term and defined in a range of years.
- ▶ **Intensity.** Indicators of the intensity of an impact, whether it is negligible, minor, moderate, or major, are included in the impact analysis and specifically defined by topic area in the methodology section that follows.

- **Type.** The type of impact refers to whether the effect is considered beneficial or adverse. Beneficial impacts would improve resource conditions. Adverse impacts would deplete or negatively alter resources.

ASSUMPTIONS

The proposed action is an existing use that may expand onto adjacent vacant land. The nearest development along Forest Drive, a single-family residence, is located approximately 0.25 mile from the camp. Because of the distance to nearby land uses, no physical division of an existing community would occur. As such, this issue is not discussed further in the impact assessment. Habitat conservation plans and natural community conservation plans are addressed in Section 5.4, Biological Resources, and are not discussed further in this section.

5.1.2 IMPACT ANALYSIS

IMPACTS OF PROPOSED ACTION

Because the consideration of land use-related impacts is comparable under CEQA, NEPA, and relevant National Park Service policies, the following analysis addresses both state and federal guidelines. The impacts associated with the proposed action are described first, as are mitigation measures that would avoid or reduce significant adverse impacts. Following the discussion of each potential impact, summary statements specific to both CEQA and NEPA/National Park Service standards are provided.

The discussion of the proposed action is followed by a description of impacts associated with the project alternatives. Any substantial differences between impacts associated with the alternatives, as compared to the proposed action, are described. If impacts are generally comparable to the proposed action, this conclusion is briefly stated.

Impact 5.1-1: Consistency with Mariposa County Plans and Policies. *Redevelopment of Camp Wawona would be conducted following an amendment to the County General Plan, an amendment to the WTPASP, and issuance of a Conditional Use Permit. These proposed actions would ensure that the redevelopment and future use of Camp Wawona would be compatible with the goals and policies of the County General Plan and the WTPASP.*

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Regional and local*

Duration of Impact: *Long-term (more than 10 years)*

Intensity of Impact: *Minor*

Type of Impact: *Neutral*

Land use plans are designed to enhance the quality of the communities within the planning area and to promote land use compatibility. Wawona is a rural community that provides visitor access to Yosemite National Park. While it is not located near any of the entrances to the park, Wawona may be considered a gateway community because it provides access to public land

within Yosemite National Park. The Mariposa County General Plan and the Wawona Town Planning Area Specific Plan (WTPASP) are designed to ensure that Wawona continue to serve this function, even when new developments occur. The project's consistency with the WTPASP would ensure the preservation of the rural quality and the land use character of this community. The proposed land uses would be considered consistent with these two land use plans if they would conform to the land use designations and policies in these plans.

Consistency with the policies in the Mariposa County General Plan and the WTPASP are contained in Table 5.1-1 and Table 5.1-2, respectively. Based on the analysis shown in these tables, the proposed action would be generally consistent with the policies from the two existing local plans. However, the final determination of policy consistency would be made by the Mariposa County Board of Supervisors. The proposed amendment to the WTPASP would also require approval of the Yosemite National Park Superintendent.

Table 5.1-1		
Consistency with Mariposa County General Plan Policies and Standards (1981)		
Policies and Standards	Consistency	Project Analysis
<i>Conservation Element</i>		
6.404-1. Minimize the potential adverse effects of growth and development on sensitive wildlife and scenic areas through density and minimum parcel size standards.	Yes, with mitigation	Impacts on local habitats and associated wildlife would be minimized. See Impact 5.4.1 and 5.4.2 discussions
6.404-2. Conduct site review on all development projects that require CEQA review proposed in identified sensitive wildlife areas.	Yes	A biological impact assessment was performed for wildlife, which included on-site analysis
6.501-A1. The availability of adequate potable water supplies for any development project must be demonstrated solely on the basis of an existing water source of documented water production and quality.	Yes	The onsite well has sufficient capacity to supply the camps future needs; therefore, no additional wells would be constructed.
6.504-1 In areas of critical wildlife habitat, minimum lot size and/or density shall be determined through site specific review and analysis; five acre minimum parcel sizes are deemed appropriate in designated scenic conservation areas.	Yes	Impacts on local habitats and associated wildlife would be minimized, and effects of proposed density of development were included in analysis. See Impact 5.4.1 and 5.4.2 discussions
6.504-4. Site and design of non-residential and non-agricultural development proposals may be approved or conditionally approved by the Planning Commission where such development does not significantly detract from natural scenic qualities of the traveled highway.	Yes	With implementation of the development constraints (including vegetative screening), vegetative management, and lighting standards included in the project, change in scenic quality from Forest Drive would not be substantial.
<i>Open Space Element</i>		
7.701-A All lands situated in Yosemite National Park...are considered appropriate for open space use.	Yes	The proposed exchange parcel currently owned by CCCSDA would be reverted back to public open space.
7.802-A.3. Discourage the placement of corrals, small horse pastures or dry feed lots in areas where slopes exceed 25% grade.	Yes	The proposed horse corral, barn, and arena would be constructed on a site with slope ranging from 0% to 15%.

Table 5.1-1 Consistency with Mariposa County General Plan Policies and Standards (1981)		
Policies and Standards	Consistency	Project Analysis
7.802-A.4. Require that animal enclosures (e.g. corrals and small pastures), located in residential areas with small lot sizes have appropriate sediment traps if vegetative cover cannot be maintained in the enclosure.	Yes	Appropriate post-construction permanent BMPs would be implemented, where deemed necessary, to minimize long-term water quality and drainage effects from land disturbances and contaminated runoff.
7.802-B.5. Require adequate grading plans, erosion control plans and drainage plans on all road or building construction/ development permits where soil erosion is classified high or extreme in accordance with the methodology described in Section 7.503 of this plan.	Yes	The applicant would coordinate the compliance with the NPDES permit and Mariposa County regulations (Chapter 15.28) for grading and erosion control. The applicant is required to prepare a Stormwater Pollution Prevention Plan (SWPPP) and implement appropriate Best Management Practices (BMPs) designed to control contaminated runoff.
7.802-B.6. Require all grading activities regulated under provisions of the State of California Uniform Building Code and County Code regulating grading activity to utilize adequate seeding, mulching and fertilizing of cut and fill slopes as prescribed by the Mariposa County Resource Conservation District and US Department of Agriculture Soil Conservation Service.	Yes, with mitigation	Reseeding of disturbed areas is included in mitigation described in the discussion of Impact 5.4.3. Details of this reseeded will be included in the required restoration plan and the required permits.
7.802-G All grading and excavations requiring a grading permit in accordance with County Code and state law, and where such grading or excavation is being conducted primarily on soil type exhibiting "high" or "extreme" erosion characteristics in accordance with Section 7.503 shall have an approved erosion control and drainage plan in accordance with county requirements.	Yes	See analysis for Policy 7.802-B.5. above.
7.804.A.1. Adequate measures should be taken to insure that animals have restricted access to major drainage channels traversing such animal enclosures. Access will be for watering purposes and restricted crossing of such channels.	Yes	Protection measures for two drainage swales located on the NPS parcel are described in mitigation measures for Impact 5.4.2
7.804.A.2. Adequate measures shall be taken to insure minimum erosion, and that run-off does not contaminate surface water drainage channels such as diversion dikes, settling ponds, and run-off spreading devices.	Yes	See analysis for Policy 7.802-B.5. above.
7.804.B. All areas of grading or excavation where surface soil is exposed shall be vegetated.	Yes	Reseeding of disturbed areas is included in mitigation described in the discussion of Impact 5.4.3. Details of this reseeded will be included in the required restoration plan and the required permits

Table 5.1-1 Consistency with Mariposa County General Plan Policies and Standards (1981)		
Policies and Standards	Consistency	Project Analysis
7.804.C.1 All roads and driveways shall have water diverted away from the road side and exposed soil at proper locations. Where slopes exceed 15% in road grade, water shall be diverted in accordance with accepted drainage design standards.	Yes	See analysis for Policy 7.802-B.5. above.
7.804.C.2 Cut and fill banks should be no steeper than two horizontal to one vertical in materials which are erodable. Soil rated as "Extreme" with respect to erosion potential should have cut and fill banks of no steeper than four horizontal to one vertical without specially designed erosion control measures approved by the Resource Conservation District.	Yes	Appropriate geotechnical design measures would be implemented to mitigate adverse effects related to erodible soil. Also see analysis for Policy 7.802-B.5 above.
7.804.C.3. All buildings and construction pads shall be designed with a slope towards the back or cut bank to prevent water flow over the face of a fill bank.	Yes	See analysis for Policy 7.802-B.5. above.
<i>Seismic Safety Element</i>		
8.402.C. All new construction sited within an area defined as having potential landslide hazard, based upon site inspections, should be subject to engineering studies, including structural and soil analysis as determined by the Chief County Building Official.	Yes	The applicant would prepare a geotechnical report prior to approval of grading or building permits. This report would identify appropriate construction practices to ensure that the proposed development meet the applicable building codes.
8.402.F. Grading, site preparation, road construction, and removal of vegetation should minimize the weakening of unstable soils and rocks in areas of potential landslide hazards, that have been identified by on site inspections.	Yes	See analysis for Policy 8.402.C. above.
<i>Noise Element</i>		
1. Insure compliance with the State law for proper insulation of new dwellings.	Yes	The project would be required to comply with state laws and would be inspected by the County.
4. Require cost effective mitigation measures be taken for all projects which have the potential of emitting noise above 70 dBA (CNEL).	Yes, with mitigation	The project would be required to implement Mitigation Measure 5.3-1, Construction-related Increases in Ambient Noise Levels, and Mitigation Measure 5.3-2, Increases in Stationary Source Noise Levels, to reduce construction noise levels
<i>Safety Element</i>		
4. Property owners are required to maintain clearance of hazardous flammable vegetation around structures and fuel modification in accordance with State requirements.	Yes, with mitigation.	Implementation of Mitigation Measure 5.11-4, Reduction of Wildfire Risk, would ensure a clearance is maintained.

Table 5.1-1 Consistency with Mariposa County General Plan Policies and Standards (1981)		
Policies and Standards	Consistency	Project Analysis
5. Requirement to maintain effective vegetative clearance around structures in a fire hazardous area shall apply to both persons owning or controlling such structures and to persons owning or controlling any land adjacent to such structures.	Yes, with mitigation.	See analysis for Policy 5. above.
6. Fuelbreaks or greenbelts separating communities, or clusters or groups of structures from native vegetation are recommended. Fuelbreaks and greenbelts will be located to protect both developing areas and adjacent wildlands. The most advantageous location and design must be determined separately for each case in consideration of fuels, topography, weather, exposures, and other constructed or planned improvements.	Yes, with mitigation	The project would be required to implement Mitigation Measure 5.11-4, Reduction of Wildfire Risk, which would require clearance around buildings.
7.b. Heating oil tanks should not be mounted on the side of the residence nor within 15 feet of any structure.	Yes, with mitigation	The project would be required to implement Mitigation Measure 5.11-4, Reduction of Wildfire Risk, which would require separation of at least 15 feet between heating oil tanks and structures.
Historic Preservation Element		
C. Identification of historic or archaeological resources on a site or in an area shall not preclude or prevent development which may take place provided that such development does not directly destroy, threaten, threaten to destroy or similarly have a substantial adverse effect on a designated historical or archaeological resource.	Yes, with mitigation.	Implementation of Mitigation Measure 5.5-3, Stop Construction if Cultural Resources are Discovered During Ground-Disturbing Activities, and Mitigation Measure 5.5-4, Archaeological Phasing, would minimize the risk of destroying or damaging cultural resources.
E. Designated significant historic and archaeological resources shall be preserved protected and where appropriate or feasible, restored through a combination of private sector incentive programs and regulatory programs.	Yes, with mitigation.	The existing buildings that would be demolished do not appear to be eligible for listing to the CRHR or the NRHP. Also see analysis for Policy C. above.

Table 5.1-2 Consistency with Mariposa County General Plan – Update Policies(April 2003)		
Policies	Consistency	Project Analysis
Land Use Element		
Policy 5-1a: Keep new development aligned with the County's rural character to accentuate, protect, and preserve the quality of life.	Yes	The proposed project would be similar in land use type and density as the existing development and would use vegetative screening to preserve the existing scenic quality.

Table 5.1-2 Consistency with Mariposa County General Plan – Update Policies(April 2003)		
Policies	Consistency	Project Analysis
<i>Policy 5-12a:</i> Legally existing nonconformities may continue after changes in General Plan policies and associated implementation deny further approval of those uses in an area.	Yes	Land use district amendments would redesignate the church camp as a permitted use.
<i>Circulation, Infrastructure, and Services Element</i>		
<i>Policy 9-5a:</i> New projects and subdivisions shall be served by basic water and wastewater infrastructure.	Yes	Proposed development would be served by existing water wells and public wastewater system.
<i>Conservation and Open Space Element</i>		
<i>Policy 11-2b:</i> Conserve water to accommodate County sustainable development and agriculture.	Yes	The potential project-related changes to groundwater recharge and groundwater conditions are small relative to the existing conditions. No agricultural activities are located near the project site.
<i>Policy 11-2c:</i> Conserve and sustainably develop surface and subsurface water as a source of potable water preserving its high quality.	Yes	See analysis for Policy 11-2b above.
<i>Policy 11-2d:</i> Preserve the integrity and function of existing or potential sources of a sustainable water supply, including protection of watersheds, reservoirs and groundwater recharge areas.	Yes	See analysis for Policy 11-2b above.
<i>Policy 11-2e:</i> Conserve water sources for water-dependent species and the continuity of riparian communities.	Yes, with mitigation.	Potentially significant impacts to two potentially sensitive drainage swales would be reduced to a less-than-significant level through implementation of Mitigation Measure 5.4-2 and adherence to permit conditions issued by USACE, RWQCB, or CDFG.
<i>Policy 11-4a:</i> Conserve the diversity of native ecosystems, plant communities, wildlife habitat, and plant and animal species in the County.	Yes, with mitigation	Impacts to native species would be minimized with mitigation measures accompanying Impacts in Chapter 5.
<i>Policy 11-6a:</i> Minimize impacts of grading activities.	Yes	The applicant would coordinate the compliance with the NPDES permit and Mariposa County regulations (Chapter 15.28) for grading and erosion control.
<i>Regional Tourism Element</i>		
<i>Policy 13-1b:</i> Maintain and increase public access to public lands.	Yes	Proposed development would not decrease public access via Forest Drive and the trails to Mariposa Grove and to Chilnualna Falls.
<i>Historic and Cultural Resources Element</i>		
<i>Policy 14-3a:</i> Increase the number of historic resources in Mariposa County that are preserved, protected, and/or rehabilitated.	Yes, with mitigation.	The existing buildings that would be demolished do not appear to be eligible for listing to the CRHR or the NRHP. Implementation of Mitigation Measure 5.5-3, Stop Construction if Cultural Resources are Discovered During Ground-Disturbing Activities, and Mitigation Measure 5.5-4, Archaeological Phasing, would minimize the risk of destroying or damaging cultural resources.
<i>Policy 14-6a:</i> Seek alternatives to demolition or destruction of historic resources.	Yes, with mitigation.	See analysis for Policy 14-3a above.

Table 5.1-2 Consistency with Mariposa County General Plan – Update Policies(April 2003)		
Policies	Consistency	Project Analysis
<i>Noise Element</i>		
<i>Policy 15.1a:</i> Controlling noise at its sources is preferred to mitigating its effects.	Yes, with mitigation	The project would be required to implement Mitigation Measure 5.3-1, Construction-related Increases in Ambient Noise Levels, and Mitigation Measure 5.3-2, Increases in Stationary Source Noise Levels, which would require noise reduction at the source (e.g., the use of mufflers and acoustical shields or shrouds, restriction on hours of construction, and limit on the use of public address system).
<i>Policy 15-2a:</i> Siting and construction of facilities intended for noise sensitive uses shall comply with the noise reduction standards of applicable state building codes.	Yes	The project would be required to comply with state laws and would be inspected by the County.
<i>Policy 15-2b:</i> New projects with a noise potential above 65 dB(A) shall incorporate mitigation measures.	Yes, with mitigation	The project would be required to implement Mitigation Measure 5.3-1, Construction-related Increases in Ambient Noise Levels, and Mitigation Measure 5.3-2, Increases in Stationary Source Noise Levels, to reduce construction and operational noise levels
<i>Policy 15-2c:</i> Ensure that new development does not produce noise levels that create an unacceptable noise environment in those existing areas of the County where the noise environment is deemed acceptable, and also in those locations deemed noise sensitive.	Yes, with mitigation	See analysis for Policy 15-2b.
<i>Safety Element</i>		
<i>Policy 16-1a:</i> Future residential development shall be located in areas with existing or provided fire suppression services.	Yes	The Camp maintains its own fire suppression facilities and equipment. In addition, the Wawona Fire Station operated by Yosemite National Park has adequate staff and equipment to accommodate and assist the camp in the event of any increased demand for fire protection services. Additionally, Yosemite has a mutual aid agreement with CDF to provide additional fire protection when necessary.
<i>Policy 16-1b:</i> Non-residential development activity shall be within acceptable fire department response time limits and coverage areas.	Yes	Response time and coverage would not change due to onsite fire response facilities and equipment.
<i>Policy 16-1d:</i> New construction shall use firesafe practices.	Yes, with mitigation.	Implementation of Mitigation Measure 5.11-4, Reduction of Wildfire Risk, would ensure a clearance is maintained.
<i>Policy 16-1e:</i> All subdivisions and development projects shall conform to adopted fire code and other fire prevention regulations.	Yes	Project would comply with existing codes and regulations.
<i>Policy 16-2a:</i> Develop and maintain cooperative arrangements with CDF to maximize the efficient deployment of fire prevention and protection resources.	Yes	See analysis for Policy 16-1a above.

Table 5.1-2 Consistency with Mariposa County General Plan – Update Policies(April 2003)		
Policies	Consistency	Project Analysis
Policy 16-5a: Ensure adequate capacity is maintained in flood plains and drainage channels to handle flood flows.	Yes	Drainage facilities would be designed and installed consistent with the Mariposa County policies, and there would be no increased stormwater runoff compared to existing conditions.
Policy 16-5c: Water retention facilities shall be constructed to prevent flooding.	Yes	Drainage features would include small onsite detention basins and underground storage volume in the form of buried 48-inch-diameter pipes.
Policy 16-7a: Reduce risk of injury or property damage by landslides and rockfalls.	Yes	The applicant would prepare a geotechnical report prior to approval of grading or building permits. This report would identify appropriate construction practices to ensure that the proposed development meet the applicable building codes.
Policy 16-7b: Avoid development in geologic hazard areas.	Yes	See analysis for Policy 16-7a above.
Policy 16-8a: Develop and enforce standards to reduce risk of injury or property damage by seismic activity.	Yes	See analysis for Policy 16-7a above.
Policy 16-9a: Develop and enforce standards to reduce risk of injury or property damage by secondary effects of seismic activity.	Yes	See analysis for Policy 16-7a above.

The WTPASP assigned the Mountain Residential (MR) land use district to the project site (see Section 4.1). Because the existing camp development and associated uses (e.g., maintenance of horses at a number above the one horse per acre standard) are not permitted in this district, the existing land use is considered to be a legal, non-conforming use. Thus, further development of the site is not permitted without a land use district reassignment or an amendment of the district. The proposed action includes an amendment to the County of Mariposa General Plan and the WTPASP to add “recreational camp” or “church camp” as conditionally permitted land uses in the MR zoning district. The project also includes an application for a Conditional Use Permit to approve the existing and the proposed land uses. As part of this process, the County would impose conditions on the proposed action, if needed, to ensure that it is consistent with the permitted uses and development standards of the MR land use district. The Town of Wawona is a community that caters primarily to visitors who come to enjoy Yosemite National Park; similarly, the camp would accommodate transient residents and staff who come to enjoy the recreational resources of Yosemite National Park. Environmental effects of the proposed land uses are analyzed in other sections of Chapter 5. Due to the similarity of the proposed land uses to other land uses in Wawona, the amendments to WTPASP and the approval of the Conditional Use Permit would be considered compatible with the goals and policies of the WTPASP. Therefore, the proposed action would result in a less-than-significant impact.

■ **Mitigation Measure 5.1-1: No mitigation measure is necessary.**

SUMMARY

With the proposed amendments to the Wawona Town Planning Area Specific Plan, the proposed camp redevelopment would be consistent with the Mariposa County General Plan and the WTPASP. The consistency would ensure the preservation of the community's character and qualities; thus, this is a less-than-significant impact.

Impact 5.1-2: Consistency with National Park Services Plans. *Redevelopment of Camp Wawona would be conducted following an amendment to the WTPASP, a plan used to guide development in Wawona by the County and the National Park Service. This redevelopment would be consistent with Natural Zone (Natural Environment Subzone) defined in the Yosemite National Park General Management Plan and with the Wawona Developed Area Plan of the General Management Plan. The redevelopment would also be consistent with the Merced Wild and Scenic River Comprehensive Management Plan. The proposed action would be consistent with the Cultural Zone (Archaeological Subzone) only if archaeological resources that may be present could be preserved through mitigation. Mitigation for this impact is addressed in Section 5.5 – Cultural Resources.*

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Local*

Duration of Impact: *Long-term (permanent)*

Intensity of Impact: *Minor*

Type of Impact: *Adverse*

As described in Section 4.1, the Yosemite Management Plan contains five broad goals for the long-term management of park resources. The Yosemite Management Plan also includes a number of management objectives, designed to achieve the goals that are relevant to the proposed action. Consistency with these management objectives are contained in Table 5.1-3. Consistency with policies in relevant management plans developed pursuant to the Yosemite Management Plan are contained in Table 5.1-4. Based on the analyses shown in these tables, the proposed action would be generally consistent with the management objectives and the management plan policies. Thus, it would be consistent with the broad parkwide goals.

The Yosemite Management Plan also defines four primary land management zones for the long-term management of park resources. The project site is located within the Natural Zone (Natural Environment Subzone) and the Cultural Zone (Archaeological Subzone). The description of each subzone is as follows:

- ▶ Natural Environment Subzone: Roads, picnicking areas, and trailheads are permitted in this subzone, but development will be minimal.
- ▶ Archeological Subzone: This subzone consists of archeological districts and overlies several other zones. Management emphasis will be on preservation of the archeological resources within the subzone.

Table 5.1-3 Consistency with Yosemite National Park General Management Plan Objectives (1980)		
Management Objectives	Consistency	Project Analysis
<i>Resource Management</i>		
Restore altered ecosystems as nearly as possible to conditions they would be in today had natural ecological processes not been disturbed	Yes, with mitigation	Mitigation measure 5.4-1 requires the preparation and implementation of a restoration plan.
Permit only those types and levels of use or development that do not significantly impair park natural resources, and direct development and use to environments least vulnerable to deterioration	Yes, with mitigation	With mitigation measures, the proposed project would not significantly impair park natural resources. See discussion on "Impairment" in Section 5.
Limit unnatural sources of air, noise, visual, and water pollution to the greatest degree possible	Yes, with mitigation	Implementation of Mitigation Measures 5.2-1 and 5.2-2 would reduce air quality impacts to the greatest extent feasible.
Permit only those levels and types of use that are compatible with the preservation or protection of the scenic resources and with the quality of the viewing experience	Yes	With implementation of the development constraints (including vegetative screening), vegetative management, and lighting standards included in the project, change in scenic quality would not be substantial.
Permit only those uses that are compatible with the preservation of significant cultural resources	Yes, with mitigation.	The existing buildings that would be demolished do not appear to be eligible for listing to the CRHR or the NRHP. Implementation of Mitigation Measure 5.5-3, Stop Construction if Cultural Resources are Discovered During Ground-Disturbing Activities, and Mitigation Measure 5.5-4, Archaeological Phasing, would minimize the risk of destroying or damaging cultural resources.
<i>Visitor Use</i>		
Permit only those levels and types of accommodations and services necessary for visitor use and enjoyment of Yosemite	Yes	Proposed development only marginally increases peak use capacity (12 additional visitors).
Provide the opportunity for a quality wilderness experience	Yes	Proposed exchange would provide additional buffer from wilderness area.
<i>Park Operations</i>		
Adjust park boundaries as required to preserve and provide for enjoyment of nationally significant resources, to complete ecological units insofar as possible, and/or to provide for more effective management	Yes	Proposed exchange would provide additional buffer from wilderness area.
Participate with government agencies and private interest in planning for compatible management and use of scenic, natural, cultural, and recreation resources	Yes	Proposed project would provide additional buffer from wilderness area and is compatible with existing adjacent trails.
Promote visitor services and accommodations at sites more appropriate to the preservation of park values and the public interest through coordinated regional planning and encouragement of private enterprise outside the park	Yes	Proposed project would provide additional buffer from wilderness area and is compatible with existing adjacent trails.

Table 5.1-4 Consistency with Policies in Yosemite National Park Management Plans		
Goals, Policies, Criteria, etc.	Consistency	Project Analysis
Yosemite Valley Plan (SEIS) (2000)		
Provide high-quality basic facilities and services, including a wide range of camping and lodging experiences.	Yes	While the project is not in the Yosemite Valley, it provides overnight camp facilities from which visitors can access the Yosemite Valley.
Merced Wild and Scenic River Comprehensive Management Plan (February 2001)		
Protect and enhance river-related natural resources	Yes, with mitigation	See Section 5 for analysis.
Protect and restore natural hydrological and geomorphic processes	Yes	Appropriate post-construction permanent BMPs would be implemented, where deemed necessary, to minimize long-term water quality and drainage effects from land disturbances and contaminated runoff.
Protect and enhance river-related cultural resources	Yes, with mitigation.	Implementation of Mitigation Measure 5.5-3, Stop Construction if Cultural Resources are Discovered During Ground-Disturbing Activities, and Mitigation Measure 5.5-4, Archaeological Phasing, would minimize the risk of destroying or damaging cultural resources.
Provide appropriate land uses	Yes	Proposed development would not alter public access to or the enjoyment of Merced River.
Yosemite Deer Herd Management Plan		
Objective: To provide the quantity of quality habitat necessary to achieve and maintain the desired population level of the Yosemite deer herd. Recommended Prescriptions: For optimum habitat, oak density on critical winter range should be retained or increased to 36 sq. ft. of basal area/acre, on other winter range to 15 sq. ft. of basal area/acre. The remaining area should follow the present USFS oak retention guidelines of 5 sq. ft. of basal area per acre.	Yes	The proposed land exchange would have negligible adverse effect on the migration corridors because the proposed project covers a small section of land, relative to the surrounding available habitat. The project would not have a significant impact on the Yosemite deer herd.
The use of roadside screening through vegetative plantings or retention of existing cover and necessary road closures should be used to maximize habitat suitability for deer. Screening will not only minimize harassment by passing vehicles but will also afford protection from poaching activities.	Yes	Project includes use of vegetative screening.
Draft Yosemite Fire Management Plan		
No applicable policies.		

Table 5.1-4 Consistency with Policies in Yosemite National Park Management Plans		
Goals, Policies, Criteria, etc.	Consistency	Project Analysis
Yosemite Vegetation Management Plan		
1. Manage and allow for natural process events such as disease, drought, fire, and insects. Implement management actions which will preserve and restore vegetation structure (or range of structural variability) that would have existed today without Euro-American interference and perpetuate the Native American Indian and natural fire regime.	Partially consistent, with mitigation	Mitigation measures in this EIR require that natural processes be allowed to continue as much as possible (see Section 5). However, many of the processes mentioned here, like fire and disease, are incompatible with camp development and habitation.
2. Provide for visitor recreation, access, enjoyment, safety, and understanding of park plant communities and ecosystems. Manage for and allow only those types and levels of public, administrative, or consumptive uses that do not impair park native plant communities or threatened, endangered, candidate, or sensitive species. Reduce risk to visitors and property consistent with the perpetuation of ecosystem processes. Protect cultural landscapes, scenic resources, and ecologically sensitive areas to prohibit impairment. Direct development and use to environments least vulnerable to degradation or where such use will not impact the viability of these areas and their scenic and scientific values.	Yes, with mitigation	Biological mitigation measures require an educational program for camp staff and visitors. With mitigation, the proposed project would not impair biological park values. See discussion for goal number 1 above.
3. Work with neighboring agencies and landowners to protect native plant communities through perpetuation of natural disturbances across private and political boundaries where feasible.	Yes, with mitigation	Mitigation requires that natural processes be allowed to continue as much as possible. See discussion for goal number 1 above.
4. Inventory and monitor trends of plant populations, communities, and ecosystem processes such as fire, insects, and disease to allow for long-term evaluation of their dynamic nature and conditions over time. Acquire information to provide for comparisons with similar altered and non-altered environments.	Yes, with mitigation	Biological mitigation measures require a natural resource protection, interpretation, and education program for camp staff and visitors. This program would include monitoring of natural resources. See mitigation measure 5.4-4.
8. Identify and phase out, or eliminate immediately, those human activities and management actions that are conflicting with the above objectives. Priority will be given to those activities that affect resource integrity.	No	The proposed project would be in conflict, at least partially, with vegetation management objectives. (See discussion for objective #1.) With mitigation measures, conflicts would be reduced but not eliminated.
Yosemite Valley Geologic Hazards Guidelines		
No applicable policies.		
Cultural Resources Programmatic Agreement		
Manage and preserve the historic properties of the park through undertakings and research, consistent with good management and stewardship. These efforts are, and will remain, in keeping with the NHPA, the National	Yes	Project will comply with existing codes and regulations.

Table 5.1-4		
Consistency with Policies in Yosemite National Park Management Plans		
Goals, Policies, Criteria, etc.	Consistency	Project Analysis
Environmental Policy Act of 1969 (NEPA), and other applicable laws, executive orders, regulations and policies. Implement its programs with public review and in consultation with other federal agencies, the SHPO, Indian Tribes, city and county governments and their respective authorities, as appropriate.		
Resources Management Plan for Yosemite National Park (Approved 1993)		
<i>Air Quality Element</i>		
Outline and appropriately implement reasonable and prudent options for the protection and maintenance of the park's Class I air quality standards from internal and external threats.	Yes, with mitigation	Implementation of Mitigation Measures 5.2-1 and 5.2-2 would reduce air quality impacts to the greatest extent feasible.
Protect human health and air quality related values such as visibility, water quality, and biological resources.	Yes, with mitigation	See analysis for above regarding air quality and mitigation measures.
Prevent further deterioration in air quality and strive to remedy any existing impacts to air quality related values from internal and external sources.	Yes, with mitigation	See analysis for above regarding air quality and mitigation measures.
<i>Aquatic Environment Element</i>		
Evaluate human-related impacts on sensitive amphibian species i.e. polluted run-off, stock use in meadows, turbidity from trails and other disturbed areas, and impacts of non-native predacious fish in lakes and streams.	Yes	Project impacts on amphibian species were evaluated in Chapter 5.
Assure that mitigation of the park are consistent with the legislative intent of the Wild and Scenic Rivers Act.	Yes	Project consistency with the Wild and Scenic Rivers Act is analyzed within this table. See above.
Assess all human impacts to the water systems to assure that water quality meets drinking water standards.	Yes	The applicant would coordinate the compliance with the NPDES permit and Mariposa County regulations (Chapter 15.28) for grading and erosion control. The applicant is required to prepare a Stormwater Pollution Prevention Plan (SWPPP) and implement appropriate Best Management Practices (BMPs) designed to control contaminated runoff.
Assure that water systems do not adversely impact the aquatic ecosystems.	Yes	Appropriate post-construction permanent BMPs would be implemented, where deemed necessary, to minimize long-term water quality and drainage effects from land disturbances and contaminated runoff.
<i>Earth Resources</i>		
Avoid placement of facilities and alignment of roads and trails in known areas of high hazard due to rockfalls, mud and debris flows, and in flood hazard zones.	Yes, with mitigation	Preparation and implementation of a geotechnical study would be required as a mitigation measure prior to development of project site.

Table 5.1-4 Consistency with Policies in Yosemite National Park Management Plans		
Goals, Policies, Criteria, etc.	Consistency	Project Analysis
Analyze abandoned roads for either restoration, preservation in a historic status, conversion to trails, or elimination.	Yes, with mitigation	Roads to be abandoned would be analyzed for restoration in the required restoration plan. See mitigation measure 5.4-1
<i>Vegetation Resources</i>		
Ensure the protection of native plant species, gene pool integrity and genetic diversity.	Yes, with mitigation	Native plants and genetic diversity are protected in mitigation measures within Section 5
Protect identified TES plant species, their habitats and potential habitats within the park.	Yes, with mitigation	TES plants and habitats are protected in mitigation measures in Section 5
Develop interpretive programs about the importance of TES plant species and their critical habitats within the park, and their importance to ecosystem dynamics.	Yes, with mitigation	Mitigation measure 5.4-4 requires a natural resource protection, interpretation, and education program for camp visitors and staff, which should include TES plant species.
Perpetuate native plant species within the park...and prevent the spread of non-native plants	Yes, with mitigation	Chapter 5 establishes protection measures for native plants and preventive measures for invasive plants
Respect the natural processes, adopt the management goal to always work with instead of against natural ecological processes.	Yes, with mitigation	Preservation of natural processes as much as possible is required in mitigation measures in Section 5.
Restore natural conditions and ecological processes to impacted and degraded areas through restoring natural contours of topography, native soils and vegetation approaching, as near as possible, a self-sustaining dynamic ecosystem.	Yes, with mitigation	Mitigation measure 5.4-1 requires the preparation and implementation of a restoration plan.
Provide the optimum balance of hazardous tree removals between protection of people, property, facilities, and structures with protection of cultural and natural resources.	Yes, with mitigation	Preservation of natural processes as much as possible is required in mitigation measures in Section 5. Snags are specifically mentioned.
<i>Wildlife Resources</i>		
Manage park habitat to protect and restore natural abundances, distributions, diversity, and behavior of park wildlife species. Modify park mitigation and visitor use to protect habitats found to be critical to threatened, endangered, and sensitive animal species.	Yes, with mitigation	Potential project impacts on all of these natural resources were identified, and mitigation measures were required, in Section 5.
Determine how human activities have reduced the quality and quantity of wildlife habitat. Identify steps to mitigate or reverse these losses.	Yes, with mitigation	Mitigation measure 5.4-4 requires the creation and implementation of a natural resources protection, interpretation, and education program, including monitoring activities, for camp visitors and staff.
Protect endangered, threatened, and sensitive animal species, their habitats and potential habitats within the park. Implement closures of park areas where human activity is shown to be adversely affecting TES species.	Yes, with mitigation	The proposed project has been analyzed for impacts to TES wildlife species and their habitats, and mitigation measures have been proposed. See Section 5.
Protect known great gray owl wintering, staging, and nesting areas from development and disturbance.	Yes	Potential project impacts to great gray owls were evaluated in Section 5, and found to be negligible.

Table 5.1-4 Consistency with Policies in Yosemite National Park Management Plans		
Goals, Policies, Criteria, etc.	Consistency	Project Analysis
Coordinate with surrounding state and federal resource agencies and private land owners to develop a park buffer zone to prevent stocking non-native species adjacent to park boundaries.	Yes	The proposed land exchange would provide additional buffer from the wilderness area. The proposed animal coral, barn, arena, and petting zoo would be fenced.
Prevent livestock trespass onto park lands to prevent the transmission of diseases to wildlife populations.	Yes	The proposed animal coral, barn, arena, and petting zoo would be fenced.
Take steps to protect staging, resting, and feeding areas for migratory species.	Yes, with mitigation	The proposed project has been analyzed for impacts to migratory wildlife species and their habitats, and mitigation measures have been proposed. See Section 5.
<i>Cultural Environment</i>		
Prior to development activities on a site, compile and synthesize data from all past work, and assess relative significance of site components, in a manner that supports making management decisions consistent with other objectives.	Yes	This EIR analyzes cumulative impacts of the proposed project.
Identify and evaluate resources within project's area of potential effect.	Yes	This EIR analyzes potential environmental impacts of the project in the area of potential effect.
Yosemite Wilderness Management Plan (1989)		
No applicable policies.		

The Yosemite Management Plan also defines four primary land management zones for the long-term management of park resources. The project site is located within the Natural Zone (Natural Environment Subzone) and the Cultural Zone (Archaeological Subzone). The description of each subzone is as follows:

- ▶ Natural Environment Subzone: Roads, picnicking areas, and trailheads are permitted in this subzone, but development will be minimal.
- ▶ Archeological Subzone: This subzone consists of archeological districts and overlies several other zones. Management emphasis will be on preservation of the archeological resources within the subzone.

The Yosemite Management Plan includes Developed Area Plans that describe actions considered necessary and desirable to achieve the overall management goals for Yosemite National Park. The project site is located in the Wawona Developed Area Plan, the relevant Visitor Use Goals and Park Operations Goals are:

- ▶ provide year-round camping opportunities, and
- ▶ improve the water quality of the Merced River by eliminating sources of water pollution.

The proposed action includes the redevelopment of a church camp and a proposed land exchange between the Seventh-day Adventists and the National Park Service. The

redevelopment would involve the replacement of a number of lodging and recreational structures, as well as of roadway and utility infrastructure. The total amount of development would increase slightly, enlarging the transient accommodation capacity by 12 people—from 338 to 350 people—and the total occupancy (including permanent staff) from 345 to 360 people during the peak-use period. This increase in development is consistent with the goal of providing year-round camping opportunities, and would be consistent with the Natural Environment Subzone in that the incremental increase is not substantial in consideration of existing development on the project site and in Wawona.

The project may result in the destruction or damage to two historic refuse deposits that may be located along the western edge of the exchange parcel currently owned by the National Park Service, as well as to undiscovered cultural resources (see Section 5.5). Thus the project may be considered inconsistent with the Archeological Subzone unless mitigation measures are implemented to preserve these resources.

The project includes permanent post-construction BMPs (e.g., best management practices in the form of stormwater drainage facilities and underground stormwater storage system) to minimize off-site contaminant stormwater runoff. Currently, there are no similar stormwater detention facilities located at Camp Wawona. Therefore, the proposed action would result in a net decrease in contaminant runoff compared to existing conditions. This is consistent with the Wawona Developed Area Plan goal of improving the water quality of the Merced River.

The land exchange, designed to provide additional buffering between Camp Wawona and the Yosemite Wilderness Area, would reduce the number of acres of public land within the National Park Service by 2.64 acres. The acreage of land that would be considered a fair exchange was determined through approved land appraisals on the basis of property value of the exchange parcels. The exchange parcel currently owned by the project applicant is located near an established trail and contains existing amenities, such as a pool and other improvements that were assessed in the land appraisal. The exchange parcel currently within the National Park Service ownership does not contain public access trails and no trails have been planned for this parcel. This parcel also does not contain unique amenities that would attract park visitors, and does not provide access to any such amenities on its adjacent areas. For example, this parcel is on the south side of Forest Drive. Visitors wishing to access the South Fork Merced River would head northward away from the proposed exchange parcel. Given that, the exchange would provide additional buffer to preserve the wilderness area, the reduction in the acres of public land would not be considered incompatible with the management goals and objectives of Yosemite National Park. As such, the exchange would result in a less-than-significant impact.

Consistency with the Merced Wild and Scenic River Comprehensive Management Plan, including its outstandingly remarkable values and management zones, is analyzed in Chapter 6. The project would be consistent with the Merced Wild and Scenic River Comprehensive Management Plan.

Because the project may result in the destruction or damage of cultural resources, the project would not be consistent with the National Park Service goals and objectives only after Mitigation Measures 5.5-2, 5.5-3, and 5.5-4 are implemented. The following mitigation measures are described in section 5.5:

- **Mitigation Measure 5.1-2 Cultural Resource Plan Consistency.** Implement the three following mitigation measures from section 5.5:
 - Mitigation Measure 5.5-2, Evaluation and Treatment of Known Historic Sites.
 - Mitigation Measure 5.5-3, Stop Construction if Cultural Resources are Discovered During Ground-Disturbing Activities.
 - Mitigation Measure 5.5-4, Archaeological Phasing and Land Exchange Revision.

Summary

With the implementation of cultural resources mitigation, the proposed action would be compatible with the long-term park resource management goals and would be considered consistent with the Yosemite National Park General Management Plan and its associated management plans, Yosemite Valley Plan, and the Merced Wild and Scenic River Comprehensive Management Plan. This impact is less than significant.

Cumulative Impacts

The Camp Wawona Redevelopment Project and Proposed Land Exchange would not introduce incompatible land uses in Yosemite National Park or the WTPASP area. The project would amend the WTPASP so that church camps may be developed within the WTPASP area with the approval of conditional use permits. Other developments of this nature have not been proposed. Thus, the proposed action would not cause any significant cumulative land use impacts.

Impairment

With the compliance with the regulatory requirements and the conformity with Yosemite National Park and Mariposa County land use regulations, the redevelopment of Camp Wawona and the proposed land exchange would not result in the potential for any land use-related impairment of park values and resources, with the exception of cultural resources, as discussed in Section 5.5. With implementation of the mitigation measures described above, impairment could be avoided with preservation of the cultural resources in the General Management Plan Archeological Subzone.

5.1.3 IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

NO PROJECT ALTERNATIVE

The No Project Alternative would require the removal of existing encroachments of Camp Wawona (i.e. the removal of three buildings, a portion of the Campfire Bowl area, the eastern end of the main entrance road, and a segment of the paved road to the south). All disturbed land would be restored to a natural condition. No change in land use or the relevant planning documents would occur.

Under this alternative, Camp Wawona would remain a legal, non-conforming use without the ability for expansion or extensive redevelopment. Due to limited changes and existing regulatory requirements, less-than-significant construction-related water quality, biological resources, and aesthetic impacts would result. No impacts related to cultural resources and operations-related water quality would result. As such, the project would not result in land use impacts related to inconsistency with plans. Compared with the proposed action, it would avoid the potential impact to cultural resources and related inconsistency with the goals and objectives at the Cultural Zone (Archaeological Subzone).

NO LAND EXCHANGE ALTERNATIVE

Under the No Land Exchange Alternative, existing encroachments would be removed and relevant plans would be amended to allow for future land use development that would be permitted within the land use district. No land exchange would occur.

Under this alternative, Camp Wawona would become a permitted use. Due to the limited changes in operations and development and the necessity of new development to comply with regulatory requirements, less-than-significant impacts pertaining to water quality and aesthetics would result. However, construction activities may occur in existing Seventh-day Adventist property where no ground disturbance has occurred previously. As such, the project under this alternative may still result in the destruction or damage of unknown cultural resources; a land use impact related to inconsistency with plans would be potentially significant requiring similar mitigation to the proposed action. Compared with the proposed action, it would lessen the potential for destroying and damaging cultural resources.

MINIMAL LAND EXCHANGE ALTERNATIVE

The Minimal Land Exchange Alternative is similar to the proposed action; however, only 8.5 acres of existing land owned by the Seventh-day Adventists would be exchanged to the National Park Service for 10 acres of current National Park Service property.

Under this alternative, the church camp would become a permitted use. Due to the necessity of new development to comply with regulatory requirements, less-than-significant impacts pertaining to water quality and aesthetics would result. The potential policy inconsistency impact related to the destruction of historic sites would be avoided; however, the project under this alternative may still result in the destruction or damage of the two known historic sites or

of unknown cultural resources. This land use impact would be potentially significant requiring similar mitigation to the proposed action. Compared with the proposed action, there would be a lesser potential for destroying and damaging cultural resources.

REDUCED LAND EXCHANGE ALTERNATIVE

The Reduced Land Exchange Alternative is similar to the proposed action; however, only 5.6 acres of existing Seventh-day Adventist land would be exchanged to the National Park Service for 6.6 acres of current National Park Service property.

Under this alternative, Camp Wawona would become a permitted use. Because of the necessity of new development to comply with regulatory requirements, less-than-significant impacts pertaining to water quality and aesthetics would result. The potential policy inconsistency impact related to the destruction of the two known historic sites would be avoided; however, the project under this alternative may still result the destruction or damage of unknown cultural resources. This land use impact would be potentially significant requiring similar mitigation to the proposed action. Compared with the proposed action, it would nonetheless lessen the potential for destroying and damaging cultural resources.

SUMMARY OF MITIGATION MEASURES

- **MM 5.1-1:** No mitigation measure is necessary.
- **MM 5.1-2:** Cultural Resources Plan Consistency, Mitigation Measure 5.5-2, Evaluation and Treatment of Known Historic Sites, Mitigation Measure 5.5-3, Stop Construction if Cultural Resources are Discovered During Ground-Disturbing Activities, and Mitigation Measure 5.5-4, Archaeological Phasing.

5.2 AIR QUALITY

5.2.1 IMPACT METHODOLOGY AND ASSUMPTIONS

Effects of the proposed action and project alternatives were analyzed using guidelines prepared for both CEQA analysis and NEPA/National Park Service analysis, as described below. Assumptions relevant to the impact analysis are also described in this section.

CEQA THRESHOLDS

The MCAPCD has not yet adopted recommended significance thresholds of for air quality review of development projects subject to CEQA within District boundaries. In the interim, the MCAPCD recommends use of the San Joaquin Valley Air Pollution Control District (SJVAPCD) "Guide for Assessing and Mitigating Air Quality Impacts" and the significance thresholds identified by the SJVAPCD. Based on the thresholds identified in the SJVAPCD's "Guide for Assessing and Mitigating Air Quality Impacts," significant air quality impacts would be determined as follows:

Short-term Construction Impacts

Fugitive dust emissions (PM_{10}) are the pollutants of greatest concern to SJVAPCD. Construction equipment emits ozone precursors and carbon monoxide (CO), but SJVAPCD has determined that these emissions may cause a significant air quality impact only in cases of very large or very intense construction projects. The SJVAPCD's approach to CEQA analyses of short-term PM_{10} construction impacts is to require implementation of effective and comprehensive control measures in compliance with SJVAPCD Regulation VIII, rather than to require detailed quantification of emissions. Short-term construction PM_{10} impacts would be considered significant if feasible SJVAPCD-recommended control mitigation measures are not included as part of the project.

Long-term Operational Impacts

The SJVAPCD has adopted standards of significance for determining the impact of a project on regional air quality. In accordance with these standards, the proposed project would be considered significant at a regional level if operational emissions of reactive organic gases (ROG) or nitrogen oxides (NO_x) exceed 10 tons per year. The proposed project would be considered significant if estimated local CO concentrations would exceed the state standards of 9 ppm averaged over 8 hours or 20 ppm averaged over 1 hour.

NEPA THRESHOLDS

The following guidelines were used to identify the context, duration, intensity (or magnitude) and type of impact (NPS 2000a).

- ▶ **Context.** The context considers whether the impact would be local or regional. For the purposes of this analysis, local impacts would be those that occur within the immediate vicinity of the proposed action, unless otherwise noted.
- ▶ **Duration.** The duration of the impact considered whether the impact occurs in the short term or long term. For this analysis, short-term impacts would be associated with the construction and demolition activities, while long-term impacts were based on changes in area, stationary, and mobile source emissions.
- ▶ **Intensity.** For purposes of this analysis, negligible impacts are those that would be barely perceptible and confined to a small area. Minor impacts would be perceptible and remain localized and confined. Moderate impacts would be sufficient to cause a change in air quality. Major impacts would result in substantial and highly noticeable changes in air quality.
- ▶ **Type.** Impacts were considered beneficial or adverse to air quality. Beneficial air quality impacts would reduce emissions or lower pollutant concentrations, while adverse impacts would increase emissions or raise pollutant concentrations.

5.2.2 IMPACT ANALYSIS

The potential air quality impacts of the proposed project have been analyzed for both the short-term and the long-term phases of the project. Short-term impacts to air quality refer to those impacts associated with construction of the project, and long-term impacts include the daily operational emissions associated with the project.

Impact 5.2-1: Short-Term Increases in Regional Criteria Pollutants and Precursors.

Construction emissions are described as “short term” or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially PM₁₀. Fugitive dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and vehicle miles traveled onsite and offsite. ROG and NO_x emissions are primarily associated with gas and diesel equipment exhaust and the application of architectural coatings. With respect to the proposed project, demolition of the existing buildings on land that will be given to the National Park Service, and construction of new buildings on land that will be obtained from the National Park Service would temporarily generate emissions of ROG, NO_x, and PM₁₀ due to site grading and excavation, paving, application of architectural coatings, motor vehicle exhaust associated with construction equipment and employee commute trips, material transport (especially on unpaved surfaces), and other construction operations.

CEQA Significance: *Less than significant with mitigation incorporated*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Regional and local*

Duration of Impact: *Short-term*

Intensity of Impact: *Moderate*

Type of Impact: *Adverse*

Short-term construction emissions of ROG, NO_x, and PM₁₀ were estimated using the ARB-approved URBEMIS 2002 Version 7.4.2 computer program. URBEMIS is designed to model construction emissions for land use development projects and allows for the input of project specific information. The estimation of Phase I and Phase II daily construction emissions because of the development of the proposed land uses are summarized in Table 5.2-1 and described in detail below. Phase I, the site preparation phase, would be anticipated to involve demolition, grading and clearing operations and Phase II, the actual construction phase, would involve the frame erection, placement of floors, roof, skin, and windows, and the application of architectural coatings.

Based on the analysis conducted, the site preparation phase for the proposed project would result in unmitigated daily emissions of approximately 29.53 pounds per day (lbs/day) or ROG, 275.62 lbs/day of NO_x, and 365.85 lbs/day of PM₁₀ (Table 5.2-1). The actual construction of the proposed project would result in unmitigated daily emissions of approximately 25.20 lbs/day of ROG, 179.42 lbs/day of NO_x, and 8.09 lbs/day of PM₁₀ (Table 5.2-1).

Table 5.2-1 Summary of Short-Term Construction Emissions			
Source	ROG (lbs/day)	NO _x (lbs/day)	PM ₁₀ (lbs/day)
PROPOSED PROJECT ¹			
Phase I (Site Preparation and Demolition) Emissions			
Site Grading (Mobile Equipment Exhaust and Fugitive Dust)	28.91	274.2	365.79
Employee Trips	0.62	1.42	0.06
Total Unmitigated	29.53	275.62	365.85
Phase II (Actual Construction) Emissions			
Mobile Equipment	24.62	179.36	8.07
Stationary Equipment	0.0	0.0	0.0
Employee Trips	0.10	0.05	0.02
Architectural Coatings	0.0	-	-
Asphalt Out-gassing	0.48	-	-
Total Unmitigated	25.20	179.42	8.09
¹ Emissions based on default model setting for 2003 conditions in the MCAB for the construction of a church camp. See Appendix D for modeling results. Source: EDAW 2003			

Construction activities associated with the proposed project would result in the generation of NO_x, ROG, and PM₁₀ emissions that could contribute to short-term impacts to regional and local air quality. Thus, the construction-related emissions of air pollutants by the proposed project would be considered to have a moderate air quality impact.

■ **Mitigation Measure 5.2-1: Short-Term Increases in Regional Criteria Pollutants and Precursors.**

- a. Engine timing on diesel-powered equipment shall be retarded to reduce NO_x emissions;
- b. Construction equipment shall be turned off when not in use;
- c. Contractor shall develop a comprehensive construction activity management plan to minimize pieces of construction equipment operating and the extent of the site area worked during any given day;
- d. Contractor shall ensure that construction NO_x equipment and maintenance vehicles are properly maintained and direct-injection diesel engines or gasoline-powered engines are used where feasible; and
- e. To the extent feasible, alternative fueled construction equipment and vehicles shall be selected for use at the project site. All construction equipment and vehicles shall be fitted with emission reduction equipment, where feasible, and in accordance with manufacturers' specifications.
- f. Sprinkle all construction areas with water at least twice daily during excavation and other ground disturbing activities;
- g. Keep stockpiles of soil moist or surrounded by windbreaks;
- h. Cover trucks hauling dirt and debris off the side to reduce spillage onto paved surfaces;
- i. Maintain at least 2 feet of freeboard on all haul trucks;
- j. Use, where possible, water or chemicals for control of dust in construction operations, the construction of roadways and the clearing of land; and
- k. Apply asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts.

SIGNIFICANCE AFTER MITIGATION

Implementation of the above mitigation measures would reduce short-term increases in regional criteria air pollutants and precursors to less-than-significant levels.

Impact 5.2-2: Long-term Increases in Regional Criteria Pollutants and Precursors. *In*

comparison to the existing facilities, indirect emissions associated with energy usage would be anticipated to decrease slightly due to increased energy efficiency and insulation requirements for the proposed structures. In addition, implementation of the proposed Master Plan would not result in a change in the number of campfire circles, in comparison to the existing facilities. However, as previously discussed, implementation of the proposed Master Plan would result in increased visitation, particularly during off-season months. Consequently, although the number of campfire circles would not change, predicted increases in visitation during the off-season months may result in an increased number of campfires. Corresponding increases in campfire emissions, primarily ROG and PM₁₀, could

occur, which may contribute to existing ozone and PM_{10} nonattainment conditions in Yosemite Valley. Consequently, increased campfire emissions would be considered to have a moderate impact on local and regional air quality.

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Regional*

Duration of Impact: *Long-term*

Intensity of Impact: *Minor*

Type of Impact: *Adverse*

The long-term operation of the proposed project would also result in increased in vehicle traffic, in comparison to existing operations, particularly during the off-season months. For comparison purposes, mobile source emissions were calculated for both existing and proposed project scenarios, based on seasonal averages of predicted vehicle traffic generated by the project, obtained from the traffic analysis prepared for this project. Mobile missions were calculated using year 2003 emission factors obtained from the California ARB-approved Emfac 2002 (Version 2.2) computer program and assumes an average trip distance of 10 miles. Predicted mobile source emissions and net increases during summer and off-season conditions are summarized in Table 5.2-2. As shown, implementation of the proposed Master Plan would generate net increases in mobile source emissions of less than one-half pound per day of ROG, NO_x , and PM_{10} . Consequently, net increases in mobile source emissions attributable to the proposed operations would be considered to have a minor impact on air quality.

Table 5.2-2
Mobile Source Emissions

Scenario	Emissions (Tons/Year)					
	Summer Average Conditions			Off-Season Average Conditions		
	NO_x	ROG	PM_{10}	NO_x	ROG	PM_{10}
Existing Conditions	1.89	1.82	0.11	0.60	0.60	0.03
Proposed Project	2.28	2.19	0.13	1.09	1.05	0.06
Net Increase	0.39	0.37	0.02	0.49	0.46	0.03

¹ Based on AADT estimates of 94 and 113 for existing and proposed project scenarios, obtained from the traffic analysis prepared for this project. Assumes an average distance of 10 miles/vehicle trip. Based on year 2003 Emfac2002 composite emission factors.

Source: EDAW 2003, kdAnderson 2003

- **Mitigation Measure 5.2- 2: Long-term Increases in Regional Criteria Pollutants and Precursors.** Campfires shall be restricted to between the hours of 5:00 p.m. and 10:00 p.m. from May 1 through October 15. Campfires shall be prohibited October 16 through April 30.

SIGNIFICANCE AFTER MITIGATION

The above mitigation measure is consistent with restrictions currently imposed by the National Park Service for campgrounds located within the jurisdictional boundaries of Yosemite National Park. It is important to note, however, that the existing facilities are located on private land and are not subject to NPS rules and regulations. Consequently, existing operations are currently allowed to conduct campfire activities during both peak-season and off-season months.

Implementation of the proposed mitigation measure would impose hourly restrictions on when campfires would be allowed and would prohibit campfires during the off-season (i.e., October 16 through April 20). Given that current operations do not impose limitations on when campfires are allowed, it is conceivable that implementation of the proposed mitigation measure may actually result in an overall net reduction in campfire emissions attributable to this facility. Therefore, with implementation of the above mitigation measure, this impact would be considered to have a beneficial or minor impact on air quality.

Impact 5.2-3: Localized Concentrations of Emissions. *Implementation of the proposed Master Plan would not result in the operation of any major stationary or area sources of hazardous air pollutants. However, motor vehicles may contribute to increases in localized concentrations of carbon monoxide (CO). As a result, CO emissions are typically analyzed at a local rather than regional level.*

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local*

Duration of Impact: *Long-term and Short-term*

Intensity of Impact: *Minor*

Type of Impact: *Adverse*

Carbon monoxide concentrations are a direct function of vehicle idling time and, thus, traffic flow conditions. Carbon monoxide transport is extremely limited, as it disperses rapidly with distance from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to a congested roadway or intersection may reach unhealthy levels, affecting local sensitive receptors (residents, school children, hospital patients, the elderly, etc.). Typically, areas of high CO concentrations, or “hot spots,” are associated with roadways or intersections operating at high levels of service (LOS E, or worse) (Caltrans 1996). In areas with a high ambient background CO concentration, modeling of CO concentrations at affected intersections is recommended in determining a project’s effect on local CO levels.

Based on the traffic analysis prepared for this project, implementation of the proposed Master Plan would result in only minor degradation of LOS at nearby intersections. The intersection of Wawona Road and Forest Drive, the intersection most affected by the proposed project, would continue to operate at acceptable LOS (i.e., LOS B). Given that there are no known congested signalized intersections in the immediate vicinity of the project, that the proposed

project would not cause nearby intersections to degrade to unacceptable levels (i.e., LOS E, or worse), and the relatively low ambient CO concentrations anticipated in the area, the associated effects of localized mobile source CO concentrations would not be anticipated to exceed state or national ambient air quality standards. As a result, local air quality impacts attributable to the proposed Master Plan would be considered minor.

SUMMARY OF MITIGATION MEASURES

- **MM 5.2-1:** Short-Term Increases in Regional Criteria Pollutants and Precursors.
- **MM 5.2-2:** No mitigation measure is necessary.
- **MM 5.2-3:** No mitigation measure is necessary.

5.3 NOISE

5.3.1 IMPACT METHODOLOGY AND ASSUMPTIONS

The effects of the proposed project and project alternatives were analyzed using guidelines prepared for both CEQA and NEPA analysis, including relevant National Park Service guidance, as described below. Assumptions critical to the impact analysis are also described in this section.

CEQA THRESHOLDS

The CEQA significance criteria are based on Appendix G of the CEQA Guidelines. Accordingly, the potential project-related impacts associated with environmental noise are considered significant if the project would:

- ▶ expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- ▶ expose people to or generate excessive groundborne vibration or groundborne noise levels;
- ▶ result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- ▶ expose people residing or working in the project area to excessive noise levels, if the project is located within an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport; or
- ▶ expose people residing or working in the project area to excessive noise levels, if the project is located within the vicinity of a private airstrip.

NEPA/NATIONAL PARK SYSTEM THRESHOLDS

This impact assessment focused on effects that development of the proposed Camp Wawona facilities could have on visitors, personnel, and facilities with respect to exposure to excessive noise. Noise impacts can occur during construction of proposed facilities (temporary impacts) and with operation and use of the camp into the future (long term impacts).

Context of Impact

For the purposes of this assessment, the context of the impact considers whether the impact would be local or regional. Localized noise impacts are those that occur within or immediately adjacent to the project site. Regional impacts refer to those occurring in offsite locations (e.g., along Forest Drive due to increased traffic).

Duration of Impact

Short-term impacts are temporary in duration and would be associated with transitional types of impacts. Construction activity is usually a short-term impact, and typically lasts one year or less. Long-term impacts from visitor and operational activities have a permanent effect on the ambient noise environment.

Intensity of Impact

Negligible impacts would not be detectable. Minor impacts would be slightly detectable in close proximity to the source, but are not expected to have an appreciable effect on ambient noise levels. Moderate impacts would be clearly detectable and could have an appreciable effect on ambient noise levels; moderate adverse impacts may include introduction of noise associated with an activity or facility into an area with little or no ambient noise. Major impacts would be clearly audible against ambient noise levels; or would have a substantial, highly noticeable effect on ambient noise levels.

For construction-related noise impacts, an increase of 3 dBA or more at nearby noise-sensitive land uses during the evening and nighttime periods of the day (i.e., 7 pm to 7 am) would be considered a moderate impact.

Long-term stationary source noise impacts would be moderate if the proposed project would result in noise levels that exceed the typical noise standards at nearby noise-sensitive land uses (refer to Figure 4.3-1). Noise ordinances generally limit exterior noise levels (measured at residential land and agricultural land uses) to a maximum of 55 dBA during any cumulative 30-minute period during daytime hours (7 am to 10 pm), and 50 dBA during any cumulative 30-minute period during nighttime hours (10 pm to 7 am).

Long-term traffic noise impacts would be considered moderate if implementation of the proposed project would result in a noticeable increase (i.e., 3 dBA or greater) in existing traffic noise levels.

Type of Impact

Impact type was evaluated using the following definitions: beneficial impacts would be created through a reduction in decibels; adverse impacts would be created through an increase in decibels.

ASSUMPTIONS

The assumptions used in the traffic analysis (see Sections 4.9 and 5.9) were used to model future noise levels and associated impacts associated with vehicle use.

5.3.2 IMPACT ANALYSIS

Because the consideration of noise-related impacts is comparable under CEQA, NEPA, and relevant National Park Service policies, the following analysis addresses state and federal guidelines concurrently. The impacts associated with the proposed project are described first, as are mitigation measures that would avoid or reduce significant adverse impacts. Following the discussion of each potential impact, summary statements specific to both CEQA and NEPA/NPS standards are provided.

The discussion of the proposed action is followed by a description of impacts associated with the project alternatives. Any substantial differences between impacts associated with the alternatives, as compared to the proposed action, are described. If impacts are generally comparable to the proposed project, this conclusion is briefly stated.

IMPACTS OF PROPOSED PROJECT

Impact 5.3-1: Construction-related Increases in Ambient Noise Levels. Depending on the time of day during which construction activities would occur, nearby noise-sensitive receptors could experience noticeable increases in ambient noise levels of 3 dBA, or greater. Construction-related activities occurring in nighttime hours (10 pm to 7 am) would generally be more noticeable than those occurring during the day, due to a quieter ambient noise environment in the evening.

CEQA Significance: *Less than significant with mitigation incorporated*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Local*

Duration of Impact: *Short-term (separate construction seasons over 10-year development period)*

Intensity of Impact: *Moderate*

Type of Impact: *Adverse*

Construction-related noise typically occurs intermittently and varies depending upon the nature or phase (e.g., demolition, land clearing, grading and excavation, erection of structures) of construction. Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Although noise ranges tend to be similar for all construction phases, the grading phase tends to involve the most equipment. The U.S. Environmental Protection Agency (USEPA) has found that the noisiest equipment types operating at construction sites typically range from 88 dBA to 91 dBA, at a distance of 50 feet from the source of the noise. Typical operating cycles may involve 2 minutes of full power, followed by 3 or 4 minutes at lower settings (USEPA 1971). Table 5.3-1 lists noise levels generated by typical construction equipment at a distance of 50 feet.

Noise from localized point sources (such as construction sites) typically decreases by about 6 dBA with each doubling of distance from source to receptor. Given this noise attenuation rate, and assuming no noise shielding from either natural or man-made features (e.g., trees,

buildings, fences, etc.), outdoor receptors within approximately 1,600 feet of construction sites could experience maximum instantaneous noise levels of greater than 60 dBA when on-site construction-related noise levels are approximately 90 dBA at the project site boundary.

Table 5.3-1		
Noise Levels Generated by Typical Construction Equipment		
Type of Equipment	Range of Sound Levels	Suggested Sound Levels for Analysis
	(dBA at 50 feet)	
Pile Driver (12,000-18,000 ft-lb/blow)	81 - 96	93
Rock Drill	83 - 99	96
Jack Hammer	75 - 85	82
Pneumatic Tools	78 - 88	85
Pumps	68 - 80	77
Dozer	85 - 90	88
Tractor	77 - 82	80
Front-End Loader	86 - 90	88
Hydraulic Backhoe	81 - 90	86
Hydraulic Excavator	81 - 90	86
Grader	79 - 89	86
Air Compressor	76 - 86	86
Truck	81 - 87	86
Source: USEPA 1971; BBN Layman Miller 1987		

Construction noise would be temporary and would include noise from activities such as site preparation, the hauling of materials to and from the site, pouring of concrete, and the application of asphalt paving materials. Due to the noise-generation potential of construction projects, activities occurring during the more noise-sensitive evening and nighttime hours are of increased concern when evaluating noise levels generated by construction activities. Because exterior ambient noise levels typically decrease during the late evening and nighttime hours, due to decreased community activities (e.g., vehicle traffic, etc.), construction activities being performed during these more noise-sensitive periods of the day can result in increased annoyance and potential sleep disruption to occupants of nearby residential dwellings. Depending on the time of day during which construction activities occur, nearby noise-sensitive receptors could experience noticeable increases in ambient noise levels of 3 dBA, or greater. As a result, short-term increases in ambient noise levels associated with the proposed action would be considered potentially significant under CEQA, and are considered local, short-term, moderate and adverse under NEPA.

■ **Mitigation Measure 5.3-1: Construction-related Increases in Ambient Noise Levels.**

- a. Noise-generating construction activities associated with the proposed project would comply with the following limitation on hours of operation: construction activities shall be limited to between the hours of 7 am and 10 pm from Monday through Friday, and between 9 am and 10 pm on Saturday and Sunday. This is typical of most local noise ordinances in the region and was used in this case, since no ordinance exists for Mariposa County.
- b. All construction vehicles or equipment, fixed or mobile, would be equipped with properly operating and maintained mufflers and acoustical shields or shrouds, in accordance with manufacturers' recommendations.

Impact 5.3-2: Increases in Stationary Source Noise Levels. The proposed redevelopment of Camp Wawona would not involve the relocation or use of any major stationary sources of noise. Continued use of the outdoor public address system, particularly during nighttime hours, would expose nearby residences and on-site visitors to increases in ambient noise levels.

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local*

Duration of Impact: *Long-term (operational)*

Intensity of Impact: *Minor*

Type of Impact: *Adverse*

The proposed project does not include the relocation or use of any major stationary sources of noise. However, continued operation of the camp's public address system could expose nearby residences and on-site visitors to increases in ambient noise levels. Noise typically associated with this type of system includes amplified music and voices. Based on measurements conducted at Camp Wawona on July 9, 2003, maximum noise levels generated by the public address system were 74.30 dBA at 15 feet from the source, with an average attenuation rate of approximately 4 dBA per doubling of distance from the source. Based on this noise level and attenuation rate, predicted maximum noise levels at the nearest residence would be 55 dBA for brief periods of time. Though noise generated by the public address system may on occasion be detectable at this nearest residence, predicted average daily noise levels would not exceed the County's maximum allowable exterior noise level of 60 dBA CNEL. However, increases in ambient noise levels, particularly during the quieter nighttime hours, could potentially occur. Use of the public address system during this more noise-sensitive period of the day could result in increased levels of annoyance and sleep disruption to nearby noise-sensitive receptors, including onsite campers. Consequently, use of the public address system during the more noise-sensitive nighttime hours would be considered a significant impact under CEQA, and would be a local, long-term, minor adverse impact under NEPA.

■ **Mitigation Measure 5.3-2: Increases in Stationary Source Noise Levels.**

- Use of the public address system would be limited to between the hours of 7 am and 10 pm from Monday through Friday, and between 9 am and 10 pm on Saturday and Sunday.
- Public address system speakers shall be oriented such that sound transmission is directed away from nearby residential land uses.

Impact 5.3-3: Increases in Traffic Noise Levels. The expected increased use of Camp Wawona would result in relatively minor increases in vehicle traffic. The increased noise associated with the additional vehicle traffic would be less than 3 dBA, an increase that is not generally perceptible.

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local*

Duration of Impact: *Long-term (operational)*

Intensity of Impact: *Negligible*

Type of Impact: *Adverse*

Based on the traffic analysis prepared for this project (see Appendix D), the proposed action would generate fewer than 120 average daily trips. Area roadways, including Forest Drive, would experience predicted increases in vehicle traffic of approximately 20 to 67% above existing conditions. This wide range is because of seasonal variations in camp usage – a relatively small increase in visitation is expected during the summer, while a substantially large increase in usage could occur in off-peak periods. Implementation of the proposed action would not, on any given day, result in a doubling of vehicle traffic on area roadways. Typically a doubling of vehicle traffic is required before a noticeable (i.e., a 3 dBA or greater) increase in traffic noise levels would occur. Given the negligible traffic increase associated with project operations, the proposed action would not result in a perceptible increase in local traffic noise levels. As a result, increases in traffic noise levels associated with the proposed project would be considered less than significant under CEQA, and would be a local, long-term, negligible adverse impact under NEPA.

Impact 5.3-4: Increases in Groundborne Vibration. The proposed project would not involve the use of any equipment or processes that would result in potentially significant levels of ground vibration. Some ground vibration would occur on a temporary basis, during construction. As a result, increased vibration levels would be considered less than significant.

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local*

Duration of Impact: *Short-term (separate construction seasons over 10-year development period)*

Intensity of Impact: *Minor*
 Type of Impact: *Adverse*

Construction activities can result in varying degrees of ground vibration, depending on the equipment used and activities being performed. The ground vibration levels associated with various pieces of construction equipment are depicted in Table 5.3-2. Ground vibration generated by construction equipment spreads through the ground and diminishes in strength with distance. The effects of ground vibration can vary from no perceptible effects at the lowest levels, low rumbling sounds and detectable vibrations at moderate levels, and slight damage to nearby structures at the highest levels. At the highest levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely result in structural damage. For most structures, a peak particle velocity (ppv) threshold of 0.5 inches per second is sufficient to avoid structure damage, with the exception of fragile historic structures or ruins. At the request of the USEPA, the Committee of Hearing, Bio-Acoustics, and Bio-Mechanics (CHABA) developed guidelines for safe vibration limits for ruins and ancient and/or historic buildings. For fragile structures, the CHABA recommends a maximum limit of 0.25 inches per second ppv (U.S. Department of Transportation 1995). For the protection of fragile, historic, and residential structures, the California Department of Transportation recommends a more conservative threshold of 0.2 inches per second ppv (Caltrans 1998).

Table 5.3-2
Representative Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity at 25 feet (in/sec)
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003
Source: U.S. Department of Transportation 1995	

Ground vibration generated by the proposed construction activities would, as shown in Table 5.3-2, result in vibration levels of less than 0.09 inches per second ppv at 25 feet. The proposed action would not involve the use of any equipment or processes that would result in potentially significant levels of ground vibration. Consequently, predicted vibration levels at the nearest structure would not be anticipated to exceed the most conservative threshold of 0.2 inches per second ppv. As a result, increased vibration levels would be considered less than significant under CEQA, and would be a local, short-term, minor adverse impact under NEPA.

Cumulative Impacts

Cumulative effects to the noise environment are based on analysis of past, present, and reasonably foreseeable future actions in the South Fork Merced River valley in combination

with potential effects of the proposed action. The possible development of employee housing by the National Park Service in the Wawona area would involve temporary construction-related noise impacts that would be cumulatively considerable, if they were to occur in proximity to Camp Wawona and occur at the same time as construction at Camp Wawona. It is assumed that employee housing, if it were developed, would not involve substantial stationary noise sources. The addition of employee housing would result in increased vehicle usage. Lacking information on the location of this housing and an assessment of predicted vehicle usage, the cumulative noise impact cannot be described.

Impairment

The noise impacts associated with the proposed action would not impair park resources or values that are necessary to fulfill specific purposes in the establishing legislation of the park, are critical to the natural or cultural integrity of the park, or identified as goals in the General Management Plan.

IMPACTS OF PROJECT ALTERNATIVES

Noise impacts related to the No Project Alternative and the three alternative land exchange proposals are described below. The detailed impact analysis described for the proposed project is referenced, as appropriate.

No Project Alternative

The No Project Alternative requires the removal of existing encroachments of Camp Wawona (i.e., the removal of four buildings, a portion of the Campfire Bowl area, the eastern end of the main entrance road, and a segment of the paved road to the south). All disturbed land would be restored to a natural condition.

The No Project Alternative has the potential to create temporary construction related noise impacts, as described for Impact 5.3-1. The duration of the impact would be minimal, as the amount of demolition and restoration would require a minimal effort to complete. There would be no long-term noise impacts because current Camp Wawona activities and visitation would not be changed.

No Land Exchange Alternative

The No Land Exchange Alternative requires the removal of existing encroachments of Camp Wawona and restoration of disturbed land to a natural condition. Conforming future improvements on the Seventh-Day Adventists property could be approved by the County and the National Park Service.

The No Land Exchange Alternative has the potential to create the identical temporary construction related noise impacts described for the No Project Alternative, unless the Seventh-Day Adventists redeveloped the camp on the current 30.45-acre parcel of land. In this case,

short-term and long-term noise impacts would be nearly identical to those described for the proposed action.

Reduced Land Exchange Alternative

The Reduced Land Exchange Alternative is similar to the proposed action; however, this alternative would involve only 8.5 acres of existing Seventh-Day Adventists land that would be exchanged to the National Park Service for 10 acres of current National Park Service property. The potential short-term and long-term noise impacts associated with the Minimal Land Exchange Alternative would be similar to those described for the proposed action.

Minimal Land Exchange Alternative

The Minimal Land Exchange Alternative is similar to the Reduced Land Exchange Alternative. This alternative would involve 5.6 acres of existing Seventh-Day Adventists land that would be exchanged to the National Park Service for 6.6 acres of current National Park Service property.

Assuming redevelopment of the camp would be comparable to the proposed project – but more focused on the currently developed property - the Minimal Land Exchange Alternative would result in nearly identical short- and long-term noise impacts to those described for the proposed project.

SUMMARY OF MITIGATION MEASURES

- **MM 5.3-1:** Construction-related Increases in Ambient Noise Levels.
- **MM 5.3-2:** Increases in Stationary Source Noise Levels.
- **MM 5.3-3:** No mitigation measure is necessary.
- **MM 5.3-4:** No mitigation measure is necessary.

5.4 BIOLOGICAL RESOURCES

5.4.1 IMPACT METHODOLOGY AND ASSUMPTIONS

Effects of the proposed alternatives were analyzed using guidelines prepared for both CEQA analysis and NEPA/National Park Service analysis, as described below. Assumptions concerning impact mechanisms to both vegetation and wildlife are also described in this chapter.

CEQA THRESHOLDS

The assessment of impacts on biological resources under CEQA was based on the significance criteria provided in Appendix G of the CEQA Guidelines. According to these guidelines, implementation of the proposed action would have a significant impact on biological resources if it were to result in:

- ▶ a substantial adverse effect (either directly or through habitat modifications) on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS;
- ▶ a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFG or USFWS;
- ▶ a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- ▶ substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impediment to the use of native wildlife nursery sites;
- ▶ any conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- ▶ any conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan; or
- ▶ a substantial reduction of habitat for a fish or wildlife species, a fish or wildlife species population falling below self-sustaining levels, threatening to eliminate a plant or animal community, or a reduction in the number or range of an endangered, rare, or threatened species.

NEPA/NATIONAL PARK SERVICE THRESHOLDS

Following the direction of the 1997 National Park Service draft NEPA guidelines and 2001 National Park Service Management Policies to satisfy NEPA and National Park Service analysis

requirements, effects of the proposed action on biological resources were analyzed using the following thresholds. With minor modification, these thresholds are taken from the Merced Wild and Scenic River Comprehensive Management Plan/FEIS for context, intensity, duration, and type. An analysis of impairment of park values, as interpreted from §§ 1.4.2-1.4.7 of 2001 National Park Service Management Policies, is included as well.

Context of Impact

The nature of certain impacts depends upon the setting of the proposed action. For instance, impacts that reduce the value of the project site and surrounding lands as deer migration corridors could be minor if such migration corridors are abundant in the region – moderate or major if they are not. The context of the impact considers whether the impact would be local or regional. For the purpose of this analysis, local impacts are those that would occur within the immediate vicinity of the project site, including the land surrounding the existing camp property, the National Park Service land proposed to be exchanged, and the land between Forest Drive and South Fork Merced River immediately north of camp property.

Duration of Impact

Under this concept, both short- and long-term effects are relevant. A short-term impact would be temporary in duration and would be associated with transitional effects, such as construction impacts, and restoration impacts. Short-term impacts would be expected to last for less than 25 years. Long-term impacts are somewhat speculative and would describe impacts associated with land use changes after the construction and restoration activities have been completed. Long-term impacts are defined as those impacts that could be detected for longer than 25 years.

Intensity of Impact

The intensity of the impact considers whether the impact would be negligible, minor, moderate, or major. These designations are used to describe both beneficial and adverse impacts. Negligible impacts were effects considered detectable, but would have no principal effect on biological resources. Minor impacts were effects that were detectable, but not expected to have an overall effect on natural community structure. Moderate-impacts would be clearly detectable and could have an appreciable effect on individual species, community ecology (e.g., the numbers of different kinds of amphibians present), or natural processes (e.g., fire). Major impacts would have a substantial, highly noticeable influence on natural resources. This would include impacts that have a substantial effect on individual species, community ecology, or natural processes. For special-status species, the intensity is defined as follows: no effect, not likely to adversely affect, likely to adversely affect, likely to jeopardize proposed species or adversely modify proposed critical habitat.

Type of Impact

The type of impact considers whether the impact would be beneficial or adverse to biological resources. Effects to biological resources are considered beneficial if an action causes no detrimental effect and results in an increase in rare species or habitat components, native ecosystem processes, native species richness or diversity, or native habitat quantity and quality.

ASSUMPTIONS

Assumptions used in assessing impacts to biological resources were derived from guidance provided in Yosemite National Park's Draft Standard Methodology for preparing an EA/EIS and the Merced Wild and Scenic River Comprehensive Management Plan/FEIS (NPS 2000). Because some of the impact mechanisms affecting vegetation differ from those that could affect wildlife resources, these two major components of the biological community are discussed separately.

Vegetation

In general, adverse effects to vegetation can be minimized by limiting the extent of fragmentation and maintaining connections among vegetation communities. The greater the size of unfragmented and undisturbed vegetation, the more valuable it is as plant and wildlife habitat and for maintenance of natural ecological processes. Development increases human presence and increases the potential for disturbance to vegetation. Human use disturbance negatively affects vegetation through the introduction of invasive, non-native species, soil compaction, and trampling. Such disturbance can extend beyond the footprint of actual development.

Wildlife

Wildlife impacts were addressed by analyzing the effects of the proposed action and project alternatives on wildlife directly (injury, death, or breeding failure) and their habitat. Habitat impacts were assessed in terms of amount and distribution, the size and connectivity of habitat, the integrity of the site (including past disturbance), and the relative importance of habitats.

In general, adverse effects on wildlife can be minimized by reducing and limiting habitat fragmentation. Roads and development generally form barriers and fragment habitat. The more developed areas become, the less valuable they are as wildlife habitat. New development would increase human presence and increase the potential for soil, wildlife, and vegetation disturbance. Animal behavior could be adversely affected by human feeding or access to unsecured refuse, and scavengers and predators could frequent the developed area.

"Edge effect" increases the adverse effect of new development beyond the boundaries of the habitat directly affected by removal and/or modification. Impacts radiating into habitat patches (such as light, noise, non-native species, and human use) decrease the value of preserved habitat patches by increasing the ratio of volume to edge.

Ultimately, the value of a restored area or the impact of a developed area to wildlife is determined by the characteristics of the species affected. Home range size, tolerance of human disturbance, and life-history characteristics determine whether a species reoccupies a restored area or abandons a disturbed area.

Ecological restoration of native communities would involve some short-term negative impacts (e.g., construction noise from demolition/removal of existing buildings) but over time can successfully replicate natural communities and processes.

Special-status Species

The impact evaluation for special-status species for the proposed action and each project alternative was based on the following: (1) the possibility of a species or its preferred habitat types occurring in areas expected to be affected; (2) the possibility of proposed activities causing direct injury or mortality to special-status wildlife or direct removal of special-status plants; (3) the direct loss of habitat; (4) the indirect loss of habitat resulting from its modification; and (5) the species' sensitivity to disturbance from human activities that may cause wildlife species to abandon currently occupied habitat or deter wildlife and plant species from occupying or establishing in suitable habitat.

Dismissed Species

Special-status Plant Species

Round-leaved sundew, which is listed on the USFWS list of special-status species of concern in Mariposa County (see Appendix B), was considered in this analysis, but was dismissed from the impacts discussion because it only grows in bogs, a habitat type not found on or adjacent to the project site. Giant sequoia was also not considered because based on available data, this conspicuous tree species does not occur on or adjacent to the project site.

Special-status Wildlife Species

All of the wildlife species revealed in the CNDDDB search and present on the USFWS list of special-status species of concern in Mariposa County (see Appendix B) were considered in this analysis, but those not discussed in detail in the impacts analysis were dismissed from further consideration due to one or more of the following reasons: there is no suitable habitat on the project site; there is potential habitat in the proximity of the project site, but the project would not impact this habitat or species; the altitude of the proposed action site is above or below the altitude in which the species is found; there is suitable habitat present, but there are no known occurrences of the species in the area around the project site from which the species could migrate or relocate; there is otherwise suitable habitat present on-site and adjacent, but the species does not tolerate existing nearby human disturbance.

5.4.2 IMPACT ANALYSIS

Because the consideration of impacts to biological resources is comparable under CEQA, NEPA, and relevant National Park Service policies, the following analysis addresses both state and federal guidelines. The impacts associated with the proposed action are described first, as are mitigation measures that would avoid or reduce significant impacts. Following the discussion of each potential impact, summary statements specific to both CEQA and NEPA/National Park Service standards are provided.

The discussion of the proposed action is followed by a description of impacts associated with the project alternatives. Any substantial differences between impacts associated with the alternatives, as compared to the proposed action, are described. If impacts are generally comparable to the proposed action, this conclusion is briefly stated.

IMPACTS OF PROPOSED PROJECT

Impact 5.4-1: Effects of the proposed land exchange on significant biological resources. *The proposed land exchange would result in the acquisition of 15.36 acres of land to be managed by the National Park Service. This land, as shown in Figure 2-4, establishes a buffer of 400 feet or more between Camp Wawona and the Yosemite Wilderness Area on the southern edge of the Seventh-day Adventists property. This buffer would improve separation distance and visual buffers, and support protection of natural resources within and adjacent to the wilderness area. The buffer is anticipated to reduce the edge effect of adjacent development and camp activities by limiting visual and auditory impacts of camp activities as perceived from the wilderness area, and by allowing for greater control of access for the wilderness area from the camp. Restoration of the land to be acquired, as described in the proposed action, would enhance the habitat values of this land. This is considered to be a local, long-term (permanent), minor, beneficial impact. No mitigation measures are required for this impact.*

The proposed action involves a transfer of land that could contain sensitive biological resources from federal ownership to non-federal ownership. If these resources are present, this would constitute a reduction in the level of protection these sensitive resources may receive. The land to be exchanged from the National Park Service contains habitats that could support several special-status plant and animal species (see Section 4.4). Therefore, the land exchange must be contingent on the protection of any significant biological resources that might be present before any land exchange actions would be approved. Focused searches for the species of concern would occur during the appropriate season to determine if they are present and the results of these searches would be used to define the specific protection measure.

CEQA Significance: *Not applicable (pertains only to federal land exchange action)*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Local*

Duration of Impact: *Long-term (permanent)*

Intensity of Impact: *Minor*

Type of Impact: *Adverse*

■ **Mitigation Measure 5.4-1: Protect significant biological resources.**

If special-status plant or animal species are present on the land to be exchanged from the National Park Service to the Seventh-day Adventists, these resources would be protected by one of the following actions:

- Exclusion of the land containing the sensitive resources from the exchange,
- Application of deed restrictions on the property to be exchanged out of federal management to protect the sensitive resource, or
- Offset the loss of protection of a sensitive resource by increasing the protection of natural resources of equal or greater value on the private property to be acquired.

Summary of NEPA/National Park Service Analysis

Implementation of the above measures would protect any significant natural resources potentially occurring on the property to be exchanged from federal to private management. Under the 1987 Memorandum of Understanding between the County and the National Park Service, all development proposals on private land in Section 35 require concurrent approval of both agencies. Unlike other situations, the National Park Service remains an approving authority for all discretionary and ministerial permits in Wawona.

Impact 5.4-2: Effects on Sierra mixed coniferous forest (including California black oaks) and related wildlife habitat. *Redevelopment of Camp Wawona would involve the removal of mature vegetation, including California black oaks. California black oaks are considered a sensitive and valued resource by Yosemite National Park. The removal of mature vegetation would also adversely affect wildlife species that use this habitat to forage and breed. The proposed action could also introduce or cause the spread of weeds. The 18-acre National Park Service parcel has limited value to wildlife due to the fragmented nature of this habitat. With Forest Drive to the north, Camp Wawona to the east, and nearby private residences to the south and west, this undeveloped piece of land is not of high value. Following restoration of the 15.36 acres to be exchanged from the Seventh-day Adventists to the National Park Service, a more contiguous forested habitat would be established next to the Yosemite Wilderness Area.*

CEQA Significance: *Less than significant with mitigation incorporated*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Local*

Duration of Impact: *Long-term (permanent)*

Intensity of Impact: *Moderate*

Type of Impact: *Adverse in relation to construction activities; Beneficial in relation to restoration*

Vegetation

Redevelopment of the Camp facilities would cause local, adverse, long-term moderate impacts related to the removal of forest vegetation, fragmentation of natural habitats, and possible

introduction or spread of invasive weeds during construction and use of the Camp. The proposed action would result in grading of portions of currently undeveloped land, and the construction of camp facilities and buildings on the National Park Service lands proposed for exchange. These activities would result in the removal and/or damage of native conifers and hardwoods, including black oak, within Sierra mixed coniferous forest. The indirect loss of trees and habitat resulting from soil compaction and nearby human disturbance is also anticipated to occur under the proposed action. The integrity of the Sierra mixed coniferous forest may also decline as a result of weed infestation. Weeds are likely to colonize areas following disturbance such as that anticipated with the proposed Camp redevelopment. Although this habitat is not considered a sensitive natural community, it contains black oaks, which along with oak woodland habitat, are considered sensitive and constitute a valued resource by National Park Service.

Wildlife Habitat

Impacts to Sierra mixed coniferous forest would result in a potential loss of wildlife habitat. In particular, the development of the National Park Service land would result in the loss of large diameter trees and snags that provide a high-value shelter resource to many wildlife species, and the loss of black oaks, which provide a high-value food source in the acorns they produce. The indirect loss of trees and habitat resulting from soil compaction and nearby human disturbance is also anticipated to occur under the proposed action.

Because precise development and grading plans have not been developed, the exact number of conifer and hardwood trees that would be removed cannot be defined. While the conceptual master plan (see Figure 2.6) indicates that substantial portions of the 18.0-acre National Park Service parcel would not be heavily developed, the development proposed along Forest Drive, combined with indirect disturbances associated with use of the Camp, would substantially affect the value of this land for use by wildlife.

■ **Mitigation Measure 5.4-2: Reduce impacts from development activities to Sierra mixed coniferous forest and related wildlife habitat.**

The following avoidance measures and best management practices would be employed to minimize impacts on native vegetation.

- The extent of areas to be disturbed during construction would be limited to those areas needed to be cleared or graded for the construction of new facilities. Construction area boundaries, including staging areas, would be clearly marked and fenced to ensure that construction activities do not impact vegetation outside of the approved construction areas. All construction activity and storage of construction materials would occur within these marked areas. Staging areas would be placed in locations already subject to disturbance, or in locations that would have to be cleared for facility construction.

- Direct removal and damage (e.g., pruning and soil compaction within the dripline) of large trees, particularly black oaks, would be avoided as much as possible. The following measures would be followed:
 - As part of the habitat restoration plan described below, a tree mitigation and monitoring plan would be completed by a qualified biologist or arborist for all oak and other native trees. The plan would include an inventory of trees to be preserved and those to be removed, including those that may be disturbed from construction activities. For trees to be removed, the plan would define replacement ratios and species, location of replacement plantings, local seed/container stock sources, description of planting methods, appropriate irrigation schedules, a monitoring schedule, success criteria, remedial measures, root rot management measures (if infection is diagnosed in trees to be removed), and a fact sheet describing the value and care of oaks. The plan would be developed in coordination with National Park Service and reviewed by Mariposa County prior to the issuance of grading or building permits. The plan would be implemented as soon as practicable after project construction is complete.
 - Individual oak trees or groups of trees to be retained during construction would be protected by establishing a root protection zone (RPZ) that is 1.5 times the distance from the trunk to the dripline prior to the initiation of any ground-disturbing activities, wherever feasible. Temporary construction fencing would be installed and no grading, trenching, or vegetative alteration would be allowed in the RPZ.
 - Side-casting and stock-piling activities would be conducted away from oak trees and other native trees, as much as possible. Side-casting or stock-piling of materials within the dripline of oak trees and other native trees would be prohibited.
 - Vehicles and heavy construction equipment, such as backhoes and excavators, would not be parked within or adjacent to the dripline of oak trees.
 - Individual oak trees and other native trees whose removal during project implementation is unavoidable would be replaced by planting seedlings or acorns from local genetic stock as close to the original site as possible. Replacement ratios and success criteria would be implemented in accordance with the tree mitigation and monitoring plan described above.
 - Prior to construction activities, a noxious weed abatement program would be developed. The program would be implemented during all phases of construction, and would include provisions to steam-clean and inspect construction equipment to ensure that it arrives on-site free of mud or seed-bearing material; fill soil, mulch, seeds and straw material would be certified as

weed-free; and areas of noxious weeds would be identified and treated pre-construction.

- Following construction, implement an on-going noxious weed abatement and control program.
- Enforce construction specifications, regarding topsoil segregation, salvage and reuse, vegetation protection, and finished grading.
- Landscaping near development would include native species appropriate to the area or National Park Service-approved non-invasive, non-native landscape plants.

Prior to project approval, a habitat restoration plan would be prepared for existing development areas to be restored, as well as for other areas to be disturbed during redevelopment of the Camp. The habitat restoration plan would be submitted to National Park Service for review and approval. The plan would include the following elements: habitat restoration techniques, planting palettes, soil preparation specifications, maintenance and remediation methods, weed prevention and abatement methods, performance criteria, and a five-year mitigation and monitoring protocol. In addition, the tree mitigation and monitoring plan described above would be incorporated into the habitat restoration plan. The habitat restoration plan would comply with the Vegetation Management Plan for Yosemite National Park (NPS 1997), which includes the minimization of irrigation systems and use of native species appropriate to the site. Native species used in planting palettes would come from salvaged on-site vegetation or local genetic stock, when possible. Reporting of restoration results to National Park Service would be completed annually.

Summary of CEQA Analysis

Without mitigation, the impacts to Sierra mixed coniferous forest, including black oaks, and to associated wildlife habitat values on the undeveloped parcel to be exchanged and redeveloped would be considered significant under CEQA. With implementation of Mitigation Measure 5.4-1, this impact would be reduced to a less-than-significant level.

Summary of NEPA/National Park Service Analysis

Without mitigation, impacts to Sierra mixed coniferous forest and associated wildlife habitats on the undeveloped parcel to be exchanged is considered local, adverse, moderate, and long term due to the permanent loss of vegetation, thinning of the forest canopy, reduction in the total numbers of high-value trees, and associated loss of habitat value for wildlife species. These impacts would occur within a local context because the project activities would occur on discrete parcels of land within or adjacent to developed lands, rather than on large areas of vegetation throughout Mariposa County or Yosemite National Park.

Removal of existing facilities on the parcel to be exchanged from the Seventh-day Adventists to the National Park Service would result in short-term, moderate adverse impacts to the vegetation because these activities would involve increased access, grading, and ground disturbance. These activities would result in the removal or damage of some native conifers and hardwoods, including black oaks, and this impact would be considered potentially significant. However, the parcel would be restored to a native condition following the removal of the existing facilities, and restoration would return the abandoned portions of the Camp to a more densely forested condition over time. However, because the details of restoration are unknown, it is difficult to determine whether wildlife habitat value would be replaced or enhanced.

The proposed action would also have long-term, beneficial impacts. Clustering camp facilities closer to Forest Drive and existing development would confine use to areas of mixed coniferous forest that are already experiencing edge effect. After restoration, habitat connectivity with the Yosemite Wilderness Area would be substantially enhanced, and there would be less fragmentation of Sierra mixed coniferous forest. The restored 15.36-acre parcel would be bordered on three sides by wilderness, creating a desirable buffer. This impact is considered moderate in intensity because the change in wilderness buffer is substantial considering the National Park Service parcel to be exchanged is not connected to the wilderness area. The integrity of Sierra mixed coniferous forest would be enhanced by restoration. The intensity of this beneficial impact could be moderate to major, depending on the nature, timing, and success of restoration.

Impact 5.4-3: Effects of development activities on sensitive habitats. *Redevelopment of Camp Wawona is restricted to the area south of Forest Drive. Therefore, the proposed action would not affect the riparian habitat along the South Fork Merced River that is located to the north of Forest Drive. Two drainage swales subject to jurisdiction of CDFG and RWQCB are located in the 18-acre parcel proposed for exchange by the National Park Service. Redevelopment of the camp may result in disturbances to these swales, which are considered sensitive resources pending formal determination by CDFG and RWQCB.*

CEQA Significance:	<i>Less than significant with mitigation incorporated</i>
NEPA Significance	<i>Less than significant with mitigation incorporated</i>
Context of Impact:	<i>Local</i>
Duration of Impact:	<i>Long-term (permanent)</i>
Intensity of Impact:	<i>Minor</i>
Type of Impact:	<i>Adverse</i>

Forest Drive delineates a general change in habitat between common mixed coniferous habitat to the south and sensitive riparian habitat to the north, adjacent to the South Fork Merced River. This area includes patches of wetland vegetation north of Forest Drive that could qualify as wetlands under USACE jurisdiction. Forest Drive effectively fragments these habitats, confining most of the natural resources associated with the river to the land north of Forest Drive. The proposed action does not include any new construction activities north of Forest Drive, and would therefore not directly affect the sensitive habitats associated with the South Fork Merced River resource area.

South Fork Merced River Resource Area

The project applicant proposes moving many Camp Wawona facilities and activities from a parcel uphill and away from Forest Drive and the river, to a parcel directly south of Forest Drive, closer to the river. This would bring camp visitors closer to the sensitive floodplain of the South Fork Merced River. However, just north of Forest Drive, the topography drops off into a steep grade, ending in a perennially wet area. This area would make for difficult hiking or walking. Public access to the river area below the steep grade is provided at the east end of Forest Drive via a paved road. There is an existing National Park Service trail just north of Forest Drive at the top of the slope that directs foot traffic to this paved road. The existing programs at Camp Wawona, such as hiking, that use the public riparian area along the river access the area via this paved road, and there would be no foreseeable reason to expect that this would change with the change in Camp location. Therefore, implementation of the proposed action would not indirectly affect the sensitive habitats associated with the South Fork Merced River resource area.

Drainage Swales

Development of the parcel to be exchanged by National Park Service may result in local, adverse impacts to two drainage swales located on this parcel. These features may qualify as Waters of the U.S. that would be subject to USACE jurisdiction under Section 404 of the CWA or Waters of the State subject to the Porter-Cologne Act. While formal delineations of these swales have not been conducted, impacts to these features are considered sensitive. Activities affecting these features could require a permit from the USACE, RWQCB, and/or a Streambed Alteration Agreement from CDFG. The duration and intensity of this impact would depend upon the nature of any activities planned within or adjacent to the drainage swales. Pending more precise resource delineations and final project design, project activities that could affect these two drainage swales are considered potentially significant, requiring mitigation.

■ **Mitigation Measure 5.4-3: Reduce impacts to two drainage swales.**

Avoid fill of or ground-disturbing activities in or adjacent to drainage swales on the 18-acre National Park Service parcel to be exchanged and redeveloped, if feasible. In order to ensure protection during construction activities, portions of the drainage swales to be avoided would be marked and fenced. The protective fencing would be placed to provide a 25-foot-wide buffer from the outer margin of each drainage swale.

If avoidance of these features would not be feasible, the applicant would implement the following mitigation measures:

- Before project implementation, the applicant would contact the RWQCB to determine whether alteration of the drainage swales would require “Section 401 certification” under the Porter-Cologne Act. If they are considered sensitive waters of the state by the RWQCB, authorization for alteration to these drainage swales

would be secured via the Clean Water Act, Section 401 certification process prior to project construction in the vicinity of the swales.

- Any mitigation measures determined through the 401 permitting process would be implemented by the applicant.
- The applicant would also contact CDFG to determine whether the drainage swales onsite represent Waters of the State. If this were the case, then a Streambed Alteration Agreement would be obtained from CDFG (pursuant to Sections 1601-1603 of the State Fish and Game Code) for any proposed modifications of the features.

Summary of CEQA Analysis

Potentially significant impacts to two potentially sensitive drainage swales would be reduced to a less-than-significant level through implementation of Mitigation Measure 5.4-2 and adherence to permit conditions issued by USACE, RWQCB, or CDFG.

Summary of NEPA/National Park Service Analysis

The fill or other direct alteration of the two drainage swales on the 18-acre parcel to be exchanged from National Park Service to the Seventh-day Adventists would create a local, long-term, minor, adverse impact. Adherence to permits issued by the USACE or RWQCB in association with potential impacts to the two drainage swales would provide adequate mitigation for this impact.

Impact 5.4-4: Effects on special-status plant species from development activities. *The project site, which includes the existing Camp Wawona property and the 18 acres proposed for exchange from the National Park Service, contains native habitats that could support a number of special-status plants. While none of these species has been documented on the project site, redevelopment of Camp Wawona could result in direct and indirect impacts to these species because construction would remove suitable habitat for these species. Restoration of the 15.36-acre parcel of land to be exchanged from the Seventh-day Adventists would allow for a local increase and enhancement of potentially suitable habitat for special-status plants over time.*

CEQA Significance: *Less than significant with mitigation incorporated*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Local*

Duration of Impact: *Long-term (permanent)*

Intensity of Impact: *Minor to moderate*

Type of Impact: *Adverse in relation to construction activities; Beneficial in relation to restoration*

South Fork Merced River Resource Area

As discussed in Impact 5.4-2 above, adverse impacts are not expected in the river resource area north of Forest Drive, which is outside of the proposed action. This would include special-

status plant species that may be found in the river area. These include Bolander's woodreed, Sierra sweet-bay, and Bolander's skullcap. It is unknown whether these species occur near the project site because CNPS List 4 and "park rare" species are not included in the CNDDDB. However, the project would not be expected to directly or indirectly affect any occurrences of these species, because it does not propose any new activities north of Forest Drive.

18-acre National Park Service Parcel

Based on the reconnaissance survey and availability of potentially suitable habitat, the following special-status plants could occur within Sierra mixed coniferous forest on the project site: Yosemite onion, snapdragon, Child's blue-eyed Mary, mountain lady's-slipper, Congdon's woolly sunflower, Yosemite woolly sunflower, short-leaved hulsea, Congdon's lewisia, trillium, and Hall's wyethia. No occurrences of these species have been reported on the project site by the CNDDDB, and these species were not observed during the reconnaissance survey. A botanical survey of the project site did not locate any special-status plant species on the project site (Skenfield 1993). However, this survey was completed 10 years ago and included a different list of target species. The potential for the occurrence of these special-status plant species exists.

Both parcels involved in the land exchange contain Sierra mixed coniferous forest that provides potentially suitable habitat for the special-status plants listed above. In particular, the National Park Service parcel contains relatively undisturbed habitat that would be disrupted by the redevelopment of camp facilities. Permanent removal of any special-status plants or their habitat resulting from this development would be a permanent, long-term adverse impact. Depending on the species affected, the intensity of this potential impact could be moderate to major based on the number and condition of other existing populations and the occurrence of other populations of the same species in the greater area. Use of this previously undeveloped parcel by campers and camp staff would also adversely affect any special-status species on the land by trampling, which could directly damage plants and degrade potentially suitable habitat.

15.36-acre Seventh-day Adventists Parcel

The construction activities associated with the removal of existing developments on the 15.36-acre Seventh-day Adventists parcel to be exchanged to the National Park Service could potentially remove or damage any special-status plants occurring on the land and their habitat. Depending on the species affected, this adverse impact could be moderate to major. However, if no special-status plants are found on the parcel or if it is feasible to avoid disturbance of populations discovered, the impact of these activities would be minor. The restoration of this property would result in a local increase and enhancement of potentially suitable special-status plant habitat over time, and is considered a local, long-term, minor beneficial impact.

- **Mitigation Measure 5.4-4: Reduce impacts from development activities to special-status plant species.**

Before the initiation of any ground-disturbing or vegetation-clearing activities, the applicant would retain a qualified botanist to conduct surveys for Yosemite onion, snapdragon, Child's blue-eyed Mary, mountain lady's-slipper, Congdon's woolly sunflower, Yosemite woolly sunflower, short-leaved hulsea, Congdon's lewisia, trillium, and Hall's wyethia.

The botanist would conduct surveys for these special-status plant species at the appropriate time of year when the target species would be in flower and therefore clearly identifiable (i.e. blooming periods). The blooming periods for target species are given in Table 4.4-2. Surveys would be conducted following the CDFG-approved protocol for surveying for special-status plant species.

If no special-status plants were found during focused surveys, the botanist would document the findings in a letter report to the applicant, National Park Service, and County, and no further management measures would be required.

If special-status plants were found, the following measures would be implemented:

- If the populations can be avoided, they would be clearly marked in the field by a qualified botanist for avoidance during construction activities.
- If special-status plant populations could not be avoided, consultations with CDFG and/or National Park Service would be required, depending on the listing status of the species present. These consultations would determine appropriate mitigation measures for any populations that would be affected by the implementation of the project. Appropriate measures may include the creation of off-site populations through seed collection or transplanting, preservation and enhancement of existing populations, or restoration or creation of suitable habitat in sufficient quantities to compensate for the impact.
- The applicant would implement all measures determined necessary during this agency consultation.

Summary of CEQA Analysis

With implementation of Mitigation Measure 5.4-3, impacts to special-status plant species would be less than significant.

Summary of NEPA/National Park Service Analysis

Potential direct and indirect impacts to special-status plant species would be local, long-term, minor to moderate, and adverse in relation to the proposed redevelopment of currently undisturbed lands, and beneficial in relation to the restoration of currently developed lands that would be exchanged to the National Park Service for long-term management in the Environmental Protection zone.

Impact 5.4-5: Effects on Special-Status Wildlife Species. *The native forested habitat on the project site, which includes the existing Camp Wawona property and the 18 acres proposed for exchange from the National Park Service, could support a number of special-status animals. These animals, including birds, bats, and the Pacific fisher, could use the area for nesting/denning, roosting, and foraging activities. While none of these species has been documented on the project site, redevelopment of Camp Wawona could result in direct and indirect impacts to these species. The 18-acre National Park Service parcel has limited value to wildlife due to the presence of surrounding developments (e.g., Forest Drive, Camp Wawona). Following restoration of the 15.36 acres to be exchanged from the Seventh-day Adventists to the National Park Service, a more contiguous forested habitat would be established next to the Yosemite Wilderness Area.*

CEQA Significance:	<i>Less than significant with mitigation incorporated</i>
NEPA Significance:	<i>Less than significant with mitigation incorporated</i>
Context of Impact:	<i>Local and regional (depending on the wildlife species)</i>
Duration of Impact:	<i>Short-term (construction); Long-term (operations and changes to forest structure)</i>
Intensity of Impact:	<i>Minor to major (depending on the wildlife species)</i>
Type of Impact:	<i>Adverse in relation to construction activities; Beneficial in relation to restoration activities</i>

South Fork Merced River Resource Area

As discussed in Impact 5.4-2 above, adverse impacts are not expected in the river corridor area north of Forest Drive, which is outside of the project site. This would include sensitive species that may be found in the river area (e.g. foothill yellow-legged frog, spotted bat). There are no special-status fish in the project area.

Exchange Parcels

The mixed coniferous forest and riparian habitats within the project study area support suitable foraging, hunting, roosting, denning, and nesting habitat for several special-status birds, bats, and the Pacific fisher. The habitat provided by the Seventh-day Adventists parcel that is proposed for restoration may have less value than the National Park Service parcel, even after restoration is complete, because it is further from the river (which provides good foraging and hunting habitat) and because there are fewer large snags and tree cavities to be used for roosting, denning and nesting. However, because there is an abundance of other suitable habitat nearby, this decrease in suitable habitat would be a minor, less-than-significant impact to local and regional special-status wildlife populations. As described in Impact 5.4-1 above, the exchange of these two parcels would have a beneficial impact on the habitat provided for special-status species using the project site by creating a larger, less fragmented, more contiguous habitat area.

Protected birds

The project area contains potential nesting and foraging habitat of varying quality for several special-status bird species, including the sharp-shinned hawk, olive-sided flycatcher, and the white-headed woodpecker. Habitat is also available for common raptor species protected

under §3503.5 of the California Fish and Game Code, including red-tailed hawk and American kestrel, and migratory birds protected under the Migratory Bird Treaty Act (MBTA), including Hammond's flycatcher, and dark-eyed Junco. There is the potential for one or more of these species to be present during construction and restoration of the proposed action.

Construction and restoration within occupied habitat of special-status bird species that requires the removal or disturbance of vegetation could cause direct local adverse impacts on breeding and nesting activities through injury or mortality of individual birds, or through the deterrence of occupying breeding and nesting locations. Construction could also result in noise, dust, and other indirect disturbances to nesting bird species in the vicinity, resulting in potential nest abandonment and mortality to eggs and chicks. Injury, mortality, or a decrease in breeding success would have a minor to major (depending on the species affected) potentially significant adverse effect on the local bird species populations, and may have a minor to major effect on the regional community.

Special-status bats

As described in Section 4.4, the following bat species are known to forage and roost in the Wawona area: *A. pallidus*, *E. fuscus*, *L. noctivagans*, *M. californicus*, *M. evotis*, *M. yumanensis*, *P. Hesperus*, *P. townsendii*, *E. perotis*, and *T. brasiliensis* (Pierson and Rainey 1995). No roosting surveys have been conducted at the project site. Bats roost in a variety of locations such as rock crevices, under tree bark, in tree cavities, in buildings, under bridges, in caves, and in culverts. The availability of day roosts and maternity roosts are considered limiting factors to bat populations (Pierson and Rainey 1995).

If an important day, maternity, or hibernating roost occurred on the project site and were disturbed or removed during project construction or restoration, it could result in injury, mortality, or a decrease in breeding success to special status bats. Depending on the species affected, and the numbers of bats affected, this direct construction impact would have a minor to major potentially significant short- or long-term adverse effect on the local bat populations, and would have a minor to major effect on the regional community.

Pacific Fisher

The project area contains potential denning and hunting habitat for the Pacific fisher, a federal and state species of concern. The fisher is among the most habitat-specific mammal in North America. The habitat in the project site is suitable for use by the fisher, and they may use the riparian corridor along the river to move between habitat stands. However, the likelihood that the fisher dens on the project site is lower than the likelihood that it uses larger intact tracts of land nearby, to the east or south of Camp Wawona. Key habitats for the fisher that were identified in the *Sierra Nevada Forest Plan Amendment* (U.S. Forest Service 2001) are structurally complex late-successional coniferous forests in stands at least 80 acres in size with the following attributes: overhead cover, presence of large diameter snags, large diameter down logs, large diameter live conifer and oak trees, complex structure near the ground, and multi-layered vegetation (vertical within-stand diversity) (Fire BA). Although the National Park Service

parcel has many of these features, surrounding areas of greater size would most likely be more appealing as denning areas.

However, the potential for fisher to den or hunt on the project site remains. Fishers that may use the project site for hunting would be disturbed in the short-term by construction and restoration activities. However, this disturbance would be negligible because the fisher would be expected to relocate their hunting behavior to nearby lands adjacent to the project site. In addition, the restoration of the southernmost section of Camp Wawona land may provide a long-term beneficial effect to the fisher by providing a more intact, less fragmented expanse of potential habitat than that which currently exists on the relatively small National Park Service parcel.

Most natal and maternal dens are in the cavities of large conifers or oaks, which may be live or in snag form. Construction and restoration within occupied habitat of denning fishers that requires the removal or disturbance of vegetation could cause direct adverse impacts on breeding and denning activities through injury or mortality of individual animals, or through the deterrence of occupying breeding and denning locations. Construction could also result in noise, dust, and other indirect disturbances to fishers in the vicinity, resulting in potential den abandonment and mortality to kits. Injury, mortality, or a decrease in breeding success would have a moderate, significant adverse effect on the local fisher populations, and may have a moderate effect on the regional community.

If any of the activities associated with the proposed action caused a substantial adverse effect (either directly or through habitat modifications) on any of the above mentioned species, it would be considered a significant impact.

■ **Mitigation Measure 5.4-5: Reduce impacts to special-status wildlife species.**

In order to minimize impacts to special-status wildlife species, the following measures would be implemented:

- a) Tree removal would take place between September 1st and October 1st. This would place tree removal outside of the pacific fisher pupping season (typically between February and May), outside of bird nesting season (typically February to August), after the bat hibernation period (typically late fall to early spring), and prior to the bat pupping season (typically early spring through mid-August). If tree removal would occur outside of this window, protocol-level breeding surveys for the appropriate species, depending on the season, would be conducted prior to tree removal. If surveys were required, they would be performed with mitigation measures as described in (b) and (c) below. The surveys for pacific fishers, if required, would involve survey for the presence of pacific fishers only, due to the difficulty in locating natal or maternal dens. If the presence of pacific fishers is confirmed, tree removal would be delayed until August 15, when fisher pups are mobile.

- b) To minimize impacts to roosting bats, prior to demolition, removal, or movement of any existing structures, a qualified biologist would conduct a survey for the existence of roosting bats. If surveys conducted in the fall did not reveal any bat species, then project actions should occur within three days in order to prevent the destruction of any bats that could move into the area after the survey. If the site were being used as a winter roost, then the project actions would occur either prior to hibernation (between September 1 and October 1) or after hibernation (between January 15 to February 15). If surveys conducted in the spring revealed that the structures were being used as a nursery colony, the action would not occur until after August 15, when the pups are weaned and are free-flying. If the survey revealed a day or night roost, a one-way exclusion device approved by CDFG would be installed. This would allow the bats to leave the structure but not re-enter. The exclusion device would remain installed for an appropriate amount of time (as determined by CDFG and/or USFWS as appropriate to the affected species) to allow bats to leave the structure prior to activity. If roosting sites were to be removed, appropriate mitigation measures would be implemented, determined through consultation with CDFG, to avoid or reduce adverse habitat reduction impacts.
- c) To minimize adverse effects on nesting birds, grading, construction, demolition, and movement of structures would be avoided during nesting season (USFWS considers the nesting season to be March 1 to August 31). If these actions were to take place during the nesting season, a qualified biologist would conduct surveys for nesting birds, no more than one week prior to construction disturbance. If any special-status species were observed nesting, a determination would be made by a qualified biologist as to whether or not the proposed activity would impact the active nest or disrupt reproductive behavior. If it were determined that the action would not impact an active nest or disrupt breeding behavior, construction would proceed without any restriction or mitigation measure. If it were determined that the action would impact an active nest or disrupt breeding behavior, then avoidance strategies would be implemented, in consultation with CDFG. Construction could be delayed within 500 feet of such a nest, until a qualified biologist determines that the subject birds were no longer nesting or until any juvenile birds were no longer using the nest as their primary day and night roost.
- d) To reduce impacts to special-status species and their habitat during construction, the following methods shall be used.
- Special-status species or habitats would be demarcated using high-visibility fencing and signs.
 - Routes of escape would be maintained from excavated pits and trenches for animals that might fall in. During construction, maintain vigilance for animals caught in excavations and take appropriate actions to free them.

- Food-related refuse would be controlled by disposal in animal-resistant receptacles of National Park Service-approved design; food on the project site would be stored in animal-resistant containers; the project site would be surveyed for food residues at the end of each workday, and any such residues would be collected and deposited in an animal-resistant trash receptacle; no food garbage would be deposited in open-top construction dumpsters.
 - An educational program on the above special-status species would be presented by a qualified biologist to construction and tree removal crews prior to their actions on the project site.
 - Speed limits in and approaching the construction area would be low and posted in appropriate locations.
- e) To reduce impacts to special-status species and their habitat by the proposed development of the National Park Service land, the following methods would be used.
- The proposed action would be designed to avoid special habitat features with obvious high value to wildlife, like tree snags, as much as possible. Natural processes would be maintained to preserve the presence of very large, old trees, snags, large-diameter logs, and decaying wood across the landscape.
 - Lighting would be minimized as much as practicable. Where night lighting is necessary, lighting would be designed to be minimal, directed downward, and shielded.
 - A natural resource protection, interpretation, and education program would be created and implemented to promote understanding for camp visitors and staff. Standard measures would include signage, presentations, and biological monitoring activities.

Summary of CEQA Analysis

With implementation of Mitigation Measure 5.4-4, including coordination with USFWS or CDFG and implementation of associated agency recommendations, the potential project-related impacts to special-status wildlife species would be less than significant under CEQA.

Summary of NEPA/National Park Service Analysis

The potential adverse impacts to special-status wildlife species would be local and regional, depending on the species, short-term (construction) and long-term (permanent changes to forest structure and camp operations), and minor to major, depending on the species involved. Abandonment and restoration of the existing 15.36-acres of land to be exchanged to the National Park Service would have long-term beneficial impacts associated with the consolidation of native habitat.

Measures to avoid or minimize the potential adverse effects include the implementation of pre-construction surveys, agency coordination, and timing of construction activities to reduce impacts.

Impact 5.4-6: Effects on Wildlife Movement Corridors. *The riparian corridor along the South Fork Merced River is expected to serve as an important corridor for wildlife movements. The proposed action would not involve the construction of new facilities in this area. Therefore, no adverse effects to wildlife movements along the South Fork Merced River are expected. Animals that may use the 18-acre National Park Service parcel for access to the river (e.g., deer) are expected to continue using this parcel after the camp is redeveloped, if they are tolerant of human activities, or to access the river to the east of Camp Wawona, where extensive tracts of undeveloped land occur nearby.*

CEQA Significance:	Less than significant
NEPA Significance:	Less than significant
Context of Impact:	Regional
Duration of Impact:	Long-term (permanent)
Intensity of Impact:	Negligible
Type of Impact:	Adverse

Stream corridors are frequently used by wildlife as movement and migration corridors. The riparian area of the South Fork Merced River is expected to serve as an important corridor for wildlife. The habitat between the river and Forest Drive, which parallels the south side of the river, would most likely be the primary corridor area. The proposed action does not involve any new activities north of Forest Drive, and would therefore not be expected to affect the South Fork Merced River movement corridor area. In addition, the discussion regarding proposed action effects on sensitive habitats (the South Fork Merced River resource area) applies to this area as a movement corridor as well (see Impact 5.4-2).

Currently, there is sparse development in the form of single family homes along much of Forest Drive and the South Fork Merced River. Camp Wawona is located at the east end of Forest Drive, which is the end of this section of development. The National Park Service parcel proposed to be exchanged and developed currently provides a relatively small undeveloped access area for wildlife moving from forested areas on the south of the project site to the river on the north. Implementation of the proposed action would reduce the regional long-term effectiveness of this potential river access by developing the National Park Service parcel. However, this effect would be minor due to the existing fragmented nature of forested habitat in this area, and adjacent private developments. Proposed development on the National Park Service parcel is not extensive, and wildlife would be expected to continue to use this area to access the river.

Because Camp Wawona is located at the end of Forest Drive with undeveloped land to the east, species that are sensitive to human disturbance most likely already avoid using the 18-acre National Park Service parcel in favor of less disturbed areas to the east, and would continue to do so. Any other species that are sensitive to human disturbance and are currently using the National Park Service parcel would be expected to shift their river access conduit to the nearby undeveloped land to the east of Camp Wawona.

The above discussion particularly applies to the use of the National Park Service land as a deer migration corridor. The Yosemite Deer Herd Management Plan, the Mariposa County General Plan, and personal communication with CDFG staff (Skenfield 1993) all describe the general Wawona area as providing habitat and migration corridors for local and regional deer herds. However, if the National Park Service parcel is within a deer migration corridor, the deer would be expected to move to the east of the existing camp, to the nearby (in terms of deer movement) undeveloped land.

■ **Mitigation Measure 5.4-6: No mitigation measure is necessary.**

Summary of CEQA Analysis

The proposed action covers a small section of land, relative to the surrounding available habitat, and the adverse effect of the relocation of any possible migration corridors from the National Park Service parcel to the undisturbed area to the east of Camp Wawona would be negligible to both the local and regional community, and would not be considered significant. No mitigation is required.

Summary of NEPA/National Park Service Analysis

The proposed action would involve development of a currently undeveloped 18-acre parcel of land along Forest Drive. This parcel may serve as a movement corridor for some wildlife species, including deer. Because of the developments around this 18-acre parcel and the presence of large tracts of undeveloped land less than 0.25 miles to the east that are more suitable to wildlife movements, this is considered a regional, long-term, but negligible adverse impact.

Cumulative Impacts

The only other known project under consideration in the Camp Wawona area is the possible construction of employee housing by the National Park Service on lands along Forest Drive that are managed for park operations and administration purposes (Yosemite Valley Plan 2000). If implemented, this project could have similar impacts to biological resources, depending on site conditions and project design. However, this possible undertaking is also fairly small in scale, the impacts would be expected to be local, rather than regional, and would not represent a significant cumulative impact under CEQA or NEPA.

Impairment

The National Park Service must leave park resources and values unimpaired. An impact that would harm the integrity of park resources or values would be an impairment. Park resources and values relating to biological resources and analyzed for the impairment standard include: wildlife and the processes and conditions that sustain them, including the biological processes that created the park and continue to act upon it; native plants and animals; and the opportunities to experience and be inspired by these plants and animals and natural processes.

Without mitigation, the proposed action would impair park values by adversely impacting wildlife, native plants and animals, and the conditions that sustain them. This, in turn, would impair opportunities to experience and be inspired by these resources. However, with restoration of the currently developed lands on the 15.36-acres of land owned by the Seventh-day Adventists that are to be exchanged to the National Park Service and restored to a native condition, consolidation of development away from the Yosemite Wilderness Area and along Forest Drive (a disturbed roadway corridor), and implementation of the mitigation measures described above, potentially adverse impacts would be alleviated or reduced to an extent that the proposed action would not impair park resources or values.

IMPACTS OF PROJECT ALTERNATIVES

No Project Alternative

Impact 5.4-1–Effects of the proposed land exchange on significant biological resources

This impact is not relevant to the No Project Alternative because no land exchange would occur.

Impact 5.4-2–Effects on Sierra mixed coniferous forest and related wildlife habitat

The No Project Alternative would have less-than-significant, negligible to minor adverse impacts to Sierra mixed coniferous forest. Impacts on this vegetation would occur within a local context. Removal of existing encroaching facilities and restoration of the land would result in short-term, adverse impacts to native vegetation because this would involve increased access and ground disturbance and may cause indirect damage to trees. However, the intensity of this impact would be negligible because facility removal would be restricted within a small, previously developed area. This alternative would also have some long-term, beneficial impacts resulting from restoration of the land. This impact would be considered negligible due to the limited extent of land restored. Elements of Mitigation Measure 5.4-2 related to limiting construction disturbance would apply.

Impact 5.4-3–Effects on sensitive habitats

The effects of the No Project Alternative on the project site in regards to sensitive habitats would be less than significant and negligible. The minor existing effects to sensitive habitats, such as hiking in the nearby sensitive riparian area, would remain. Because the drainage swales are located on the National Park Service parcel, removal of existing encroachments would not affect these features and Mitigation Measure 5.4-3 would not apply.

Impact 5.4-4–Effects on special-status plant species

The No Project Alternative would have less-than-significant, negligible, adverse impacts to special-status plant species. The removal of existing encroachments and restoration would have a short-term duration, and occur in a local context within a restricted area of previously disturbed land. This developed land does not provide suitable habitat for special-status plant

species. In the long-term, restoration of the disturbed land would have a local, beneficial impact by increasing the extent of potentially suitable habitat. However, because of the limited area affected, this beneficial impact would be negligible. No mitigation for special-status plant species is required.

Impact 5.4-5–Effects on special-status wildlife species

Long-term, the No Project Alternative would have a negligible adverse effect on special-status species by maintaining a somewhat fragmented habitat with a relatively large edge effect. As described in the discussion of Impact 5.4-3, centralizing development to the area along Forest Drive, and restoring the southern section of the Camp Wawona land to be exchanged to the National Park Service would create a less fragmented area with a smaller edge effect ratio. However, the difference between these two ratios is negligible and the effect on the special-status wildlife community would be nearly undetectable.

Short-term adverse effects of this alternative on special-status wildlife species would relate to construction activities (the removal and restoration of encroaching camp facilities.) Because National Park Service land would not be developed, there would be a proportionally smaller chance of causing direct mortality or removal of habitat used for reproduction due to construction. Because there would be no tree removal involved, and because of the fisher's sensitivity to human disturbance which would most likely preclude their existence on the camp property, there would be no impact to the pacific fisher. However, the potential impacts to protected birds and bats, as described above in Impact 5.4-5 for the proposed action, would remain much the same. Although the potential for removing possible bird nesting and bat roosting sites within trees would be reduced because no trees would be removed, the potential for impacting birds remains due to nearby construction disturbance, and the potential for impacting bats remains both through nearby construction disturbance and through disturbing potential roosts in the buildings to be moved. Impacts to these two groups of special-status wildlife would be negligible to major in either a local or regional context, depending on which species were affected. This would be a potentially significant impact that is adequately addressed by implementation of Mitigation Measure 5.4-5.

Impact 5.4-6–Effects on wildlife movement corridors

The effects of the No Project Alternative to the project site in regards to wildlife movement corridors would be less than significant and negligible. The minor existing effects of human disturbance would remain, and wildlife would continue to adapt to the human presence, or move around it. No mitigation is required.

No Land Exchange Alternative

Impact 5.4-1–Effects of the proposed land exchange on significant biological resources

This impact is not relevant to the No Land Exchange Alternative because no land exchange would occur.

Impact 5.4-2–Effects on Sierra mixed coniferous forest and related wildlife habitat

The impacts to Sierra mixed coniferous forest resulting from the No Land Exchange Alternative would be similar to those discussed under the No Project Alternative. However, because the relevant plan amendment and conditional use permit would allow for future camp modifications on the 30.45-acre Seventh-day Adventists land, additional impacts could occur if the land is redeveloped. Although the details of future project plans are unknown at this point, construction could result in short- to long-term, adverse, local impacts to this habitat. The intensity could be minor to major depending on the nature and extent of future modifications and whether restoration would be incorporated. Beneficial impacts could also occur if future actions include removal of facilities and restoration of land. Because the nature and extent of future camp modification projects are unknown and this alternative does not include a planned restoration component, this impact is considered potentially significant.

Mitigation Measure 5.4-2 provided above pertains to this impact and would reduce it to a less-than-significant level under CEQA.

Impact 5.4-3–Effects on sensitive habitats

The discussion regarding the No Project Alternative applies for this impact. No mitigation is required.

Impact 5.4-4–Effects on special-status plant species

The impacts to special-status plant species resulting from this alternative would include those discussed under the No Project Alternative. No impacts to the 18-acre parcel of land owned by the National Park Service would occur, reducing the potential for impacts to special-status species in this area. However, because the No Land Exchange Alternative would allow future camp improvements on Seventh-day Adventists land, additional impacts could occur if the land is redeveloped. Future projects could occur within undeveloped portions of the land, which could provide suitable habitat for special-status plant species. Construction beyond previously developed areas could result in a local, adverse impact if special-status plant species are present on the existing Seventh-day Adventists land. The duration and intensity of this impact would depend on the type of project activities and the species affected. While the impact to special-status plant species is expected to be less severe under the No Land Exchange Alternative, relative to the proposed action, this impact is still considered potentially significant, and Mitigation Measure 5.4-4 would be implemented to address this impact.

Impact 5.4-5–Effects on special-status wildlife

The impacts to special-status wildlife species resulting from this alternative would be similar to those discussed under the No Project Alternative. However, because the No Land Exchange Alternative would allow future camp improvements on the current 30.45 acres of Seventh-day Adventists land, additional impacts could occur if the land is redeveloped. Future projects could occur within undeveloped portions of the land, which could provide suitable habitat for special-status wildlife species. Construction beyond previously developed areas could result in

a local, adverse impact if special-status wildlife species are present on the land. The duration and intensity of this impact would depend on the type of project activities and the species affected. Because the nature and extent of future camp modification projects are unknown, this impact is considered potentially significant, and Mitigation Measure 5.4-5, as discussed above, would be implemented to reduce this impact to a less-than-significant level.

Impact 5.4-6—Effects on wildlife movement corridors

The discussion regarding the No Project Alternative applies for this impact. No mitigation is required.

Reduced Land Exchange Alternative

The adverse and beneficial impacts described for the proposed action (Impacts 5.4-1 through 5.4-6) would all apply to the Reduced Land Exchange Alternative, as would the associated mitigation measures. The reduced amount of acreage to be exchanged under this alternative would result in slightly less potential for adverse impacts to biological resources, but this difference is not significant. Conversely, a smaller consolidation of undeveloped land adjacent to the Yosemite Wilderness Area would occur, reducing the beneficial effect of moving camp developments closer to Forest Drive.

Minimal Land Exchange Alternative

The adverse and beneficial impacts described for the proposed action (Impacts 5.4-1 through 5.4-6) would all apply to the Minimal Land Exchange Alternative, as would the associated mitigation measures. The reduced amount of acreage to be exchanged under this alternative would result in less potential for adverse impacts to biological resources, but this difference is not significant. Conversely, a smaller consolidation of undeveloped land adjacent to the Yosemite Wilderness Area would occur, reducing the beneficial effect of moving camp developments closer to Forest Drive.

SUMMARY OF MITIGATION MEASURES

- **MM 5.4-1:** Protect significant biological resources.
- **MM 5.4-2:** Reduce impacts from development activities to Sierra mixed coniferous forest and related wildlife habitat.
- **MM 5.4-3:** Reduce impacts to two drainage swales.
- **MM 5.4-4:** Reduce impacts from development activities to special-status plant species.
- **MM 5.4-5:** Reduce impacts to special-status wildlife species.
- **MM 5.4-6:** No mitigation measure is necessary.

5.5 CULTURAL RESOURCES

5.5.1 IMPACT METHODOLOGY AND ASSUMPTIONS

The effects of the proposed action and project alternatives were analyzed using guidelines established for both CEQA and NEPA, including National Park Service guidelines, as described below.

CEQA THRESHOLDS

According to the CEQA Guidelines (§15064.5), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The project would result in a significant adverse impact to cultural resources if it would cause the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired. Actions that would materially impair the significance of a historic resource are any actions that would demolish or adversely alter those physical characteristics of an historical resource that convey its historical significance and qualify it for inclusion in the California Register of Historical Resources (CRHR), or a local registry or survey that meet the definitions and requirements of §§5020.1 and 5024 of the California Public Resources Code.

NEPA/NATIONAL PARK SERVICE THRESHOLDS

Under federal regulations (36 CFR 800.9), a project has an effect on an historic property when the undertaking could alter the characteristics of the property that may qualify the property for inclusion in the National Register of Historic Places (NRHP). An undertaking may be considered to have an adverse effect on an historic property when the effect may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:

- ▶ physical destruction or alteration of all or part of the property,
- ▶ isolation of the property from or alteration of the property's setting when that character contributes to the property's qualifications for listing in the NRHP,
- ▶ introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting,
- ▶ neglect of a property resulting in its deterioration or destruction, or
- ▶ transfer, lease, or sale of the property.

Context of Impact

Impacts to archaeological resources would be considered to occur on a local scale, in close proximity to the actual resources. Impacts to cultural landscapes, including historic structures, would include a larger context to encompass landscape-level issues and potential changes to the setting of historic structures.

Duration of Impact

The duration of impacts to historic properties could be short-term, long-term, or permanent. Any irreparable change in the physical attributes of an archeological site is considered adverse and of permanent duration. Impacts to historic structures and cultural landscape resources are considered short-term if they involve activities such as temporary removal of vegetation or other contributing resources, where the impacts are noticeable for a period of one to five years. Impacts are long-term if they result in a reversible change from five to twenty years in duration, and permanent if they involve irreversible changes in significant characteristics.

Intensity of Impact

Intensity of an impact on a cultural resource can be defined as negligible, minor, moderate, or major. Slight changes in a significant characteristic of an historic property would be a negligible impact. While minor impacts would be perceptible and noticeable, they would remain localized and confined to a single element or significant characteristic of an historic property. Moderate impacts would also be noticeable, but would still not substantially result in change in the significant characteristics of an historic property. Major impacts would result in substantial material alteration or destruction of the property or qualifying characteristics that contribute to its historic significance.

For archeological sites, the intensity of the impact would depend upon the potential of the resource to yield important information, as well as the extent of the physical disturbance or degradation. The intensity of impacts to ethnographic resources would depend on the importance of the resource to an ongoing cultural tradition, as well as the extent of physical damage or change.

Type of Impacts

Impacts to cultural resources can be direct or indirect, and adverse or beneficial. Details addressing these topics within the two types of cultural resources that may be applicable to the proposed action (archaeological sites and cultural landscapes) are presented below. There are no known ethnographic resources (e.g., traditional gathering areas) in proximity to the proposed action.

Archeological Resources

Adverse impacts to archeological resources can be either direct, resulting from direct physical disturbance or degradation from implementation of grading, trenching, or other ground

disturbing activities; or indirect such as those that may result in unauthorized artifact collection, accelerated soil compaction, and/or erosion. Beneficial impacts can occur when patterns of visitor use or management action are changed in the vicinity of archeological resources, such that an ongoing impact, which would otherwise continue to degrade archeological resources, is reduced or arrested.

Cultural Landscape Resources (including historic structures)

For cultural landscape resources, direct, adverse impacts generally occur as a result of modifying a significant characteristic of an historic structure or landscape resource; removal of a significant structure or landscape resource; or addition of new, incompatible facilities in association with an historic site or structure. Indirect adverse impacts can also occur following project completion, and are generally associated with changes in historic vegetation, or continued deterioration of historic structures. Beneficial impacts can occur as a result of restoration or rehabilitation of resources, or removal of incompatible or noncontributing facilities or elements thereby adding to the significance of the resource.

Ethnographic Resources (including Traditional Cultural Properties)

Impacts to ethnographic resources occur as a result of changes in the physical characteristics, access to, or use of the resources in a manner that changes or reduces the cultural traditions associated with those resources. Beneficial impacts can occur when intrusive facilities or activities are removed from a traditional use area, improving the value of the resource or enhancing access to the traditional resource by American Indian peoples. Adverse impacts include physical changes to a traditionally used resource that decrease its value, or when access to traditionally used areas such as plant gathering locations is removed or restricted.

ASSUMPTIONS

The assessment of impacts related to cultural resources includes the understanding that the National Park Service has developed a methodology for assessing impacts to historic resources through the 1999 Programmatic Agreement (NPS 1999). This methodology includes: (1) identifying areas that could be affected; (2) assessing the level of resource information available and conducting appropriate inventories and evaluations necessary to obtain information about resources eligible for listing in the NRHP; (3) comparing the area of potential effect with that of resources listed, eligible for listing in the NRHP; (4) identifying the extent and type of effect; (5) assessing these effects according to procedures established by the Advisory Council's regulations; and (6) considering ways to avoid, reduce, or mitigate adverse effects.

According to stipulation VII(C) of the 1999 Programmatic Agreement, impacts to archeological resources are considered "not adverse" for purposes of Section 106 if data recovery is carried out in accordance with the 1999 research design. Under the revised regulations of the Advisory Council on Historic Preservation of May 18, 1999 (36 CFR 800, Protection of Historic Properties, Final Rule and Notice), data recovery is considered to be an "adverse effect."

However, according to Part 800.3(A)(2) of those revised regulations, provisions of programmatic agreements in existence at the effective date of the new regulations remain in effect.

Archeological resources are typically, but not exclusively, considered eligible for inclusion in the NRHP because of the information they have or may be likely to yield. Intensity of impacts to archeological resources relates to the importance of the information they contain and the extent of disturbance or degradation.

5.4.2 IMPACT ANALYSIS

The analysis of impacts to cultural resources under CEQA, NEPA, National Park Service policies, and the requirements of Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulation (36 CFR 800) includes elements common to both state and federal requirements, as well as differing procedural requirements under state and federal law. Federal laws applicable to the National Park Service for the proposed action result in additional requirements, particularly in relation to the proposed land exchange. These topics are addressed following the analysis of issues common to state and federal law.

The impacts associated with the proposed action are described first, as are mitigation measures that would avoid or reduce significant adverse impacts. The discussion of the proposed action is followed by a description of impacts associated with the project alternatives. Any substantial differences between impacts associated with the alternatives, as compared to the proposed action, are described. If impacts are generally comparable to the proposed action, this conclusion is briefly stated. Following the discussion of each potential impact, summary statements specific to both CEQA and NEPA/National Park Service/NHPA standards are provided

IMPACTS OF PROPOSED ACTION

Impacts Common to CEQA and NEPA/National Park Service/NHPA Analysis

Impact 5.5-1: Potential Destruction of or Damage to Historic Structures. *Redevelopment of Camp Wawona would involve the demolition, alteration, or disturbance of existing structures, some of which are more than 45 years old. These structures are not associated with important historical people or events, do not possess significant architectural values, and do not contain information important in history. These structures do not appear to be eligible for inclusion in the National Register of Historic Places or the California Register of Historical Resources. Formal determinations of eligibility by the National Park Service, and consultation with the State Historic Preservation Officer under Section 106 of the National Historic Preservation Act, have not occurred yet.*

CEQA Significance: *No impact*

NEPA Significance: *No impact*

Context of Impact: *N/A*

Duration of Impact: *N/A*

Intensity of Impact: *N/A*

Type of Impact: *N/A*

Proposed redevelopment activities would result in the demolition, alteration, or disturbance of structures in Camp Wawona, some of which are more than 45 years old. Architectural evaluation of these structures indicates that none of the existing buildings at Camp Wawona are eligible for listing to the CRHR or the NRHP. Assuming agency concurrence with the architectural evaluation (Tomes 2003), there would be no impact to historic structures eligible to the CRHR and there would be no adverse effect to historic properties as defined in 36 CFR 800. As described under Impact 5.5-4, compliance with Section 106 of the NHPA is required by the National Park Service before the proposed land exchange could be approved.

■ **Mitigation Measure 5.5-1: No mitigation measure is necessary.**

Impact 5.5-2: Potential Destruction of or Damage to Known Historic Archaeological Sites.

Two historic-era archaeological sites are located on the western margin of the 18-acre parcel of National Park Service land proposed for exchange to the Seventh-day Adventists. These sites may extend onto the exchange parcel, and could be impacted by the proposed redevelopment of Camp Wawona. Pending confirmation of specific site locations, evaluations of these resources for inclusion in the National Register of Historic Places and the California Register of Historical Resources, and compliance with Section 106 of the National Historic Preservation Act, and final site design, the potential exists that the proposed action would result in the destruction of or damage to these archaeological resources.

CEQA Significance: *Less than significant with mitigation incorporated*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Local*

Duration of Impact: *Long-term (permanent)*

Intensity of Impact: *Moderate*

Type of Impact: *Adverse*

Two historic refuse deposits (YOSE 1999L-2 and L-5) have been identified adjacent to the western edge of the lands to be exchanged by Yosemite National Park, and may extend into the exchange lands. These sites appear to date from 1930-1950, and are associated with apparently short-duration historic activities. Proposed redevelopment activities may require removal or disturbance to these historic deposits. Pending further evaluation of the deposits relative to the CRHR and NRHP criteria, this impact is considered potentially significant under CEQA and a potential moderate adverse effect under federal regulation (36 CFR 800).

■ **Mitigation Measure 5.5-2: Evaluation and Treatment of Known Historic Sites.**

The precise location of the two refuse deposits relative to the proposed exchange lands and the redevelopment activities would be confirmed. If these sites are within the proposed action area, the steps detailed below would be completed before the land exchange could be implemented and before grading permits could be issued.

Phase I

- Focused background research would be conducted to identify, gather and analyze available information regarding the history, development, and land-use of the project area.
- Field investigations by a qualified archaeologist would further define the location and nature of the archaeological resources.
- Report production would document the results of the background research and field investigation. Reports would be filed with the appropriate agencies and information centers.

Phase II

If one or both of the known historic sites are found to occur within the proposed action area, but are removed from the land to be exchanged to the Seventh-day Adventists, further steps may not be necessary. If the sites are present and remain in the area proposed for exchange, the following steps would be implemented:

- A scope of work and research design would be prepared to establish the goals of subsurface testing, and develop a context within which the findings will be evaluated.
- Supplementary background research would be conducted, as necessary, to identify possible historic references related to the deposits.
- Fieldwork would be used to determine the spatial extent, age, and characteristics of the archaeological deposits.
- CRHR and NRHP evaluations would be documented in a technical report, including a recommendation to SHPO as to resource eligibility, based on background, the research design, and fieldwork. Reports would be filed with the appropriate agencies and information centers.

Phase III

- If either of the resources were determined to be eligible to the CRHR or the NRHP, a determination of treatment measures (e.g., preservation in place, acceptance of loss, data recovery, interpretation,) would be developed in consultation with the SHPO in accordance with state and federal laws and regulations.

Summary of CEQA Analysis

Upon completion of Mitigation Measure 5.5-2, the impact to the two known historic resources under CEQA would be less than significant.

Summary of NEPA/National Park Service/NHPA Analysis

Upon completion of the steps listed in Mitigation Measure 5.5-2 and compliance with Section 106, the potential long-term, moderate adverse impact to the two known historic resources under NEPA would not be significant, and the potential adverse effect under NHPA would be resolved.

Impact 5.5-3: Potential Destruction of or Damage to Undiscovered Archaeological Sites. *The*

proposed action site, including the 18-acre parcel of National Park Service land proposed for exchange to the Seventh-day Adventists, is located on an old terrace along the South Fork Merced River, and a thick layer of forest duff covers the ground. Buried prehistoric or historic-era archaeological sites could occur within the project area. These buried deposits could be uncovered and damage during grading and excavation activities associated with the proposed redevelopment of Camp Wawona.

CEQA Significance: *Less than significant with mitigation incorporated*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Local*

Duration of Impact: *Long-term (permanent)*

Intensity of Impact: *Moderate*

Type of Impact: *Adverse*

Subsurface disturbances could potentially destroy or damage potentially buried prehistoric and historic cultural resources in the project study area. Pursuant to CEQA Guidelines §15064.5(f), and as part of the procedures required by §21082 of the Public Resources Code, the lead state agency should make provisions for historical or unique archaeological resources accidentally discovered during construction. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, a treatment plan and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available.

This impact is considered potentially significant under CEQA, a potential adverse effect under 36 CFR 800, and a potentially moderate adverse impact under NEPA/National Park Service guidelines.

Based on information provided by the prefield research, field survey, and onsite topographic conditions, the proposed action site may contain significant buried cultural resources. The project site is located on a terrace above the South Fork Merced River, thick forest duff covers much of the lands being considered for exchange from the National Park Service to the Seventh-day Adventists, and the developed camp includes areas of artificial fill (e.g., behind the retaining wall along Forest Drive). In both cases, archaeological resources may have been covered over or buried and no longer be visible.

In light of the potential to uncover unknown or undocumented subsurface cultural remains during redevelopment of the camp, this impact is considered potentially significant under CEQA and a potential adverse effect under 36 CFR 800.

■ **Mitigation Measure 5.5-3: Stop Construction if Cultural Resources are Discovered During Ground-Disturbing Activities.**

In the event that previously unknown archaeological resources are discovered during proposed land alteration activities, the construction contractor would cease work that could further disturb such resources and notify the Camp Director regarding the discovery. Work could continue on other parts of the building site while cultural resource evaluation or treatment is being completed. The Seventh-day Adventists would contact the County Planning Department, the National Park Service, and an archaeologist meeting the Secretary of the Interior's professional qualifications. The archaeologist would evaluate the resource in accordance with state and federal guidelines. If necessary, appropriate treatment measures will be developed in consultation with the National Park Service and County. If required, treatment of the resource, in accordance with a plan approved by the responsible agencies, would be implemented before potentially destructive work within the area of the resource could resume.

Summary of CEQA Analysis

Upon implementation of Mitigation Measure 5.5-3, the potential impact to unknown, buried cultural resources under CEQA would be less than significant.

Summary of NEPA/National Park Service/NHPA Analysis

With implementation of Mitigation Measure 5.5-3 and compliance with Section 106, the potential long-term, moderate adverse impact to unknown archaeological resources under NEPA would not be significant, and the potential adverse effect under NHPA would be resolved.

Impacts Relevant Only to NEPA/National Park Service/NHPA

The proposed exchange of federal lands to private ownership is subject to laws and regulations specific to the National Park Service, and the formal exchange would not involve discretionary action on the part of the County. Therefore, the following issue is specific to federal jurisdiction.

Impact 5.5-4: Exchange of Federal Lands Containing Historic Properties. *The proposed action site, including the 18-acre parcel of National Park Service land proposed for exchange to the Seventh-day Adventists, is located on an old terrace along the South Fork Merced River, and a thick layer of forest duff covers the ground. Buried prehistoric or historic-era archaeological sites and traditional cultural properties could occur within this proposed exchange parcel. The National Park Service must comply with Section 106 of the National Historic Preservation Act prior to implementation of the proposed land exchange. Compliance with Section 106 involves three phases, including inventory, evaluation, and treatment (if resources eligible for inclusion in the National Register of Historic Places would be adversely affected by the proposed undertaking).*

CEQA Significance: *N/A (there are no state or local agency decisions involved in this process)*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Local*

Duration of Impact: *Long-term (permanent)*

Intensity of Impact: *Negligible to Major (depending on absence or presence of resources)*

Type of Impact: *Adverse*

The act of exchanging federal lands to a private owner is an “undertaking” with potential to affect historic properties, requiring consultation with the SHPO under Section 106 of the NHPA. As noted above (Impact 5.5-3), the National Park Service property proposed for exchange to the Seventh-day Adventists may include resources eligible for listing in the NRHP. Failure to identify resources, assess their significance, and resolve issues related to these potentially buried sites may result in adverse effects to these archaeological sites.

■ **Mitigation Measure 5.5-4: Archaeological Phasing and Land Exchange Revision.**

Prior to the execution of documents giving final approval to the proposed exchange of lands between National Park Service and the Seventh-day Adventists, the multi-step process detailed below would be applied, as appropriate.

Phase I

- Background research would be used to identify, gather, and analyze available information regarding the history, development, land-use, and archaeological sensitivity of the project area.
- Field investigations by a qualified archaeologist would be conducted to identify the presence or absence of cultural remains.
- A report would be prepared to document the results of the background research and field investigation. Reports would be filed with the appropriate agencies and information centers.

Phase II

- A scope of work and research design would be prepared to establish the goals of subsurface testing and develop a context within which the findings would be evaluated.
- Background research would be conducted to supplement the Phase I research, as necessary.
- Fieldwork would be used to determine spatial extent, age, and characteristics of any archaeological deposits.
- NRHP evaluations, including report production, would be used to make a recommendation to SHPO as to the NRHP eligibility, as well as to document

background research and fieldwork. Reports would be filed with the appropriate agencies and information centers.

Phase III

If resources eligible for listing in the NRHP (e.g., archaeological sites or traditional cultural properties) were identified within the land proposed for exchange from the National Park Service to the Seventh-day Adventists, a determination of treatment measures would be developed in consultation with the SHPO in accordance with federal laws and regulations. These measures would include one of the following:

- Revise the proposed exchange to exclude the land containing sensitive areas from the exchange, maintaining these resources under direct National Park Service management and protection;
- Apply deed restrictions on the property to be exchanged out of federal management to preserve the sensitive resource in place;
- Conduct data recovery, interpretation, or other treatment measures to resolve the potential loss of the resource.

Summary of NEPA/National Park Service/NHPA Analysis

With implementation of the procedural steps described in Mitigation Measure 5.5-4, including the possible removal of certain areas within the 18-acre parcel of land proposed for exchange from the National Park Service to the Seventh-day Adventists, potential adverse effects under 36 CFR 800 would be resolved, and there would be no significant impacts to cultural resources under NEPA.

Cumulative Impacts

The project-related impacts described above, when considered in combination with the possible development of employee housing for the National Park Service staff in Wawona, would represent a cumulative impact as a result of increased impacts to cultural resources, if those other developments were constructed and involved adverse impacts to significant cultural resources. However, this cumulative impact is not considered significant under CEQA, and is considered a local, long-term, but minor adverse impact under NEPA.

Impairment

The National Park Service must not impair the cultural resources of Yosemite National Park. Because of the location of the project site on the terrace above the South Fork Merced River, the potential for undiscovered cultural resources exists. Complete cultural resources surveys have not been conducted. If cultural resources were found, they could be substantially disturbed, which would result in impairment. Substantial disturbance to these potential resources would be avoided with the proposed mitigation measures. With implementation of the mitigation measures described above, the redevelopment of Camp Wawona and the

proposed land exchange would not impair park values and resources related to cultural resources.

IMPACTS OF PROJECT ALTERNATIVES

Impacts to cultural resources related to the no project alternative and the three alternative land exchange proposals are described below. When relevant, the impact analysis and mitigation measures described for the proposed action are referenced.

No Project Alternative

The only action that would occur under the no project alternative would be removal of existing encroachments onto National Park Service lands, and associated restoration of those lands to a native condition. Removal of these encroachments would not involve new disturbance, there would be no exchange of federal land, and it is unlikely that buried archaeological deposits would be exposed during the restoration activities.

The only impact to cultural resources that could occur as a result of the no project alternative would be removal of historic structures that could be eligible for inclusion in the CRHR or the NRHP (see Impact 5.5-1). The architectural investigation prepared for the existing structures at Camp Wawona resulted in the recommendation that none of these resources appear to be CRHR or NRHP eligible (Tomes 2003). Pending agency review and approval of this recommendation, there would be no impact to cultural resources associated with this alternative, and no mitigation measures are required.

No Land Exchange Alternative

Under this alternative, existing encroachments onto National Park Service lands would be removed and the impacted areas would be restored to a native condition. Redevelopment of the camp facilities could occur on the lands currently owned by the Seventh-day Adventists.

Removal of the existing encroachments would not involve new disturbance, there would be no exchange of federal land, and it is unlikely that buried archaeological deposits would be exposed during the restoration activities. The removal of historic structures that could be eligible for inclusion in the CRHR or the NRHP would occur under this alternative (see Impact 5.5-1). However, the architectural investigation prepared for the existing structures at Camp Wawona resulted in the recommendation that none of these resources appear to be CRHR or NRHP eligible (Tomes 2003). Pending agency review and approval of this recommendation, there would be no impact to cultural resources associated with this alternative, and no mitigation measures are required.

As noted under impact 5.5-3 in the proposed action discussion, subsurface disturbances associated with redevelopment of the camp could potentially destroy or damage buried prehistoric and historic cultural resources that may be present in the project study area. Under the no land exchange alternative, this impact could only occur on the lands owned by the Seventh-day Adventists. This impact is considered potentially significant under CEQA, a

potential adverse effect under 36 CFR 800, and potentially significant under NEPA. Implementation of Mitigation Measure 5.5-3 would reduce this impact to a less-than-significant level under, potential adverse effects under 36 CFR 800 would be resolved, and there would be no significant impact under NEPA.

Reduced Land Exchange Alternative

Under this alternative, existing encroachments onto National Park Service lands would be removed and the impacted areas would be restored to a native condition. Abandonment of existing developments on 8.5 acres of current Seventh-day Adventist land would be completed, including restoration of these lands to a native condition. A reduced amount of land (10 acres rather than 18.0 acres) would be exchanged from federal to private ownership, and redevelopment of the camp facilities could occur on the lands currently owned by the Seventh-day Adventists, as well as on the lands exchanged from the National Park Service.

The removal of historic structures that could be eligible for inclusion in the CRHR or the NRHP would occur under this alternative (see Impact 5.5-1). However, the architectural investigation prepared for the existing structures at Camp Wawona resulted in the recommendation that none of these resources appear to be CRHR or NRHP eligible (Tomes 2003). Pending agency review and approval of this recommendation, there would be no impact to cultural resources associated with this alternative, and no mitigation measures are required.

Because less land would be exchanged from the National Park Service, the two historic-era resources located at the western margin of the 18.0-acres of National Park Service land would be avoided under this alternative (see Figure 3.2 for a depiction of the proposed exchange parcels under this scenario).

As noted under impact 5.5-3, subsurface disturbances associated with redevelopment of the camp could potentially destroy or damage buried prehistoric and historic cultural resources that may be present in the project study area. This impact is considered potentially significant under CEQA, a potential adverse effect under 36 CFR 800, and potentially significant under NEPA. Implementation of Mitigation Measure 5.5-3 would reduce this impact to a less-than-significant level under, potential adverse effects under 36 CFR 800 would be resolved, and there would be no significant impact under NEPA.

Impact 5.5-4, as described in the impact analysis for the proposed action, would also apply to the reduced land exchange alternative. Implementation of the regulatory steps outlined in Mitigation Measure 5.5-4 would resolve any adverse effects under 36 CFR 800, and no significant impact under NEPA would occur.

Minimal Land Exchange Alternative

Impacts to cultural resources under this alternative would be identical to those described under the Reduced Land Exchange Alternative. The only difference between these two

alternatives is the amount of land proposed for exchange from the National Park Service to the Seventh-day Adventists (6.6 acres as compared to 10 acres under the previous alternative). Implementation of Mitigation Measures 5.5-1, 5.5-3, and 5.5-4 would avoid significant impacts under CEQA and NEPA, and potential adverse effects under 36 CFR 800 would be resolved.

SUMMARY OF MITIGATION MEASURES

- **MM 5.5-1:** No mitigation measure is necessary.
- **MM 5.5-2:** Evaluation and Treatment of Known Historic Sites.
- **MM 5.5-3:** Stop Construction if Cultural Resources are Discovered During Ground-Disturbing Activities.
- **MM 5.5-4:** Archaeological Phasing.

5.6 HYDROLOGY AND WATER QUALITY

5.6.1 IMPACT METHODOLOGY AND ASSUMPTIONS

The effects of the proposed action and project alternatives were analyzed using guidelines prepared for both CEQA and NEPA analysis, including relevant National Park Service guidance, as described below. Assumptions critical to the impact analysis are also described in this section.

CEQA THRESHOLDS

The CEQA significance criteria are based on Appendix G of the CEQA Guidelines. According to these guidelines, hydrologic and water quality impacts of a project are considered significant if they would:

- ▶ Create stormwater runoff that would exceed the capacity of existing or planned stormwater drainage systems,
- ▶ Substantially alter the existing drainage patterns or increase the rate or amount of runoff in a manner that would result in flooding onsite or offsite,
- ▶ Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite,
- ▶ Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level,
- ▶ Violate any water quality standards or waste discharge requirements, or
- ▶ Substantially degrade surface-water quality such that it would violate criteria or objectives identified in the Central Valley RWQCB basin plan or otherwise substantially degrade water quality to the detriment of beneficial uses.

NEPA/NATIONAL PARK SERVICE THRESHOLDS

Context of Impact

For the purposes of this assessment, the context of the impact considers whether the impact would be local or regional. Localized hydrologic and water quality impacts are those that occur to resources on the project area or immediately adjacent properties (e.g., channel scour within or at the edge of a property boundary, water quality impacts to an onsite pond or stream). Larger scale or regional impacts refer generally to those occurring in offsite locations. For example, hydraulic processes in channel floodplain functions extending downstream from

the project area, or passage of impaired water quality conditions to other downstream locations.

Duration of Impact

The duration of the impact considers whether the impact would occur in the short term or over the long term. Short-term hydrologic and water quality impacts refer to those that occur on a temporary, intermittent basis, and immediately and quickly dissipate, either naturally or by implemented mitigation measures. A period of one (1) year is a common threshold used to distinguish a short-term impact from a longer-term or permanent impact.

Intensity of Impact

The intensity of the impact considers whether the impact would be negligible, minor, or major. Negligible impacts would be imperceptible, not detectable by normal analytical methods, or would have no discernible effect on the hydrology or quality of a river or other water body. Minor impacts would be slightly perceptible and/or affect substantially less than the majority of the area or resource in question, without the potential to expand if left alone or not mitigated. Major impacts would be highly noticeable, may be permanent, or could increase if left alone. Major adverse impacts are also defined as those effects that would occur to a majority of the area or resource in question. When analyzing the intensity of a hydrologic or water quality impact, important considerations include seasonal timing of the project-related effects and magnitude of the effect in relation to the natural background variation.

Type of Impact

Impacts were evaluated in terms of whether they would be beneficial or adverse to the hydrologic environment. The focus of the impact analysis is for potential adverse impacts and beneficial impacts are generally considered to be effects that have the reverse of the adverse changes described below. Hydrologic impacts can occur within the following topics: stormwater drainage, floodplain functions, and groundwater recharge and/or aquifer conditions.

Adverse stormwater drainage impact analyses generally address grading- and construction-related changes in onsite and offsite flows that have potential to create or alter surface drainage courses, exceed capacity and cause localized ponding or flooding, or change velocities that could cause scour and downstream sedimentation. Adverse floodplain impacts generally refer to any potential construction-related reduction in floodplain functions including conveyance capacity, inundation depths, impediments to flow, or floodwater storage. Adverse groundwater impacts generally address project grading, cut, and fill activities that could intercept or alter groundwater storage or flow. Groundwater impact analyses also address project operations-related effects of groundwater uses and potential effects to existing onsite or offsite wells, or regional groundwater conditions.

Water quality impacts address potential adverse discharges of construction- or operations-related wastes to land or water. Water quality impact analyses also address project construction-related effects to natural processes of land or water that serve to maintain water quality conditions such as grading-related changes to land and associated changes in soil erosion, and changes in stormwater drainage and associated infiltration of drainage into soil.

ASSUMPTIONS

The analysis of impacts to hydrology and water quality was based on the assumption that the proposed action would include standard procedures related to grading and erosion control and stormwater runoff.

Grading and Erosion Control

Prior to any demolition, restoration, or construction activities taking place, the Seventh-day Adventists (or a designated representative), shall submit a Notice of Intent (NOI) to the Central Valley Regional Water Quality Control Board (RWQCB) for the discharge of stormwater pursuant to obtaining authorization under the National Pollutant Discharge Elimination System (NPDES) stormwater permit for general construction activity. The applicant shall coordinate the compliance with the NPDES permit and Mariposa County regulations (Chapter 15.28) for grading and erosion control. The applicant shall prepare a Stormwater Pollution Prevention Plan (SWPPP) and implement appropriate Best Management Practices (BMPs) designed to control contaminated runoff from temporary construction activities. Appropriate post-construction permanent BMPs shall also be implemented, where deemed necessary, to minimize long-term effects from land disturbances and contaminated runoff. The engineers and/or general contractor(s) conducting the work would be responsible for complying with all terms and conditions of the NPDES stormwater permit and the SWPPP. The general contractor(s) would be responsible for constructing or implementing BMPs specified in the SWPPP.

Stormwater Drainage Plan

A drainage plan shall be prepared by a registered civil engineer addressing on-site and off-site impacts that includes routing stormwater runoff from the paved parking areas to detention facilities to mitigate the impact of impervious surface stormwater runoff. The detention pond shall be fenced for public safety. The project developer shall design, install and maintain onsite runoff attenuation facilities with sufficient capacity to reduce 100-year project stormwater runoff rates to those currently generated by the project site. The drainage plan shall include engineering drawings and supporting calculations, which describe the existing stormwater drainage system and the drainage system and environmental features which are proposed after development of a property.

5.6.2 IMPACT ANALYSIS

Because the consideration of impacts to hydrology and water quality is comparable under CEQA, NEPA, and relevant National Park Service policies, the following analysis addresses both state and federal guidelines. The impacts associated with the proposed action are described first, as are mitigation measures that would avoid or reduce significant adverse impacts. Following the discussion of each potential impact, summary statements specific to both CEQA and NEPA/National Park Service standards are provided.

The discussion of the proposed action is followed by a description of impacts associated with the project alternatives. Any substantial differences between impacts associated with the alternatives, as compared to the proposed action, are described. If impacts are generally comparable to the proposed action, this conclusion is briefly stated.

IMPACTS OF PROPOSED PROJECT

Impact 5.6-1: Long-term Changes in Drainage and Runoff. *Redevelopment of Camp Wawona would involve construction activities that would compact soil, and would create new impervious surfaces (e.g., parking areas, building rooftops) that contribute to increased water runoff, particularly during storm events. Restoration of the 15.36 acres of land to be exchanged from the Seventh-day Adventists would include removal of impervious surfaces and the return of these surfaces to a natural condition. The net result in these changes would be a relatively small incremental increase in the overall surface area of developed facilities. No development activities are proposed in the 100-year floodplain of the South Fork Merced River. A final drainage plan that provides specification for facilities necessary to ensure that the rate of stormwater runoff does not exceed the pre-project conditions for a 100-year storm event would be reviewed and approved by the agencies before building or grading permits would be issued. Because there are currently no onsite stormwater detention or retention facilities at Camp Wawona, and the proposed redevelopment would include drainage control/water quality features, off-site runoff during smaller, more frequent storm events would be reduced following redevelopment of the camp.*

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local (on-site) and regional (off-site)*

Duration of Impact: *Long-term (permanent)*

Intensity of Impact: *Negligible to minor (depending on intensity of storm events)*

Type of Impact: *Beneficial*

Development of land has the potential to alter drainage courses and runoff patterns. Grading and land disturbance can create permanent alterations in surface runoff routes for rain and snowmelt. Compaction of soils and construction of impervious surfaces can reduce the net amount of infiltration of runoff into the soil and increase runoff rates and quantities. The proposed Camp Wawona redevelopment project would involve the following actions related to the existing drainage and runoff conditions:

- Approximately 120,000 square feet of additional impervious surfaces at Camp Wawona would be created (Lars Andersen & Associates 2002). This change represents a relatively

small incremental increase in the overall surface area of developed surfaces when considering existing facilities at Camp Wawona to be removed.

- ▶ Existing impervious surfaces located on the property to be exchanged to The National Park Service would be restored to a native condition with respect to water infiltration capacity (see Section 2.4).
- ▶ The new property acquired from the National Park Service would be developed to include impervious surfaces in the form of buildings, a parking lot, and other features.
- ▶ The redevelopment of the remaining Seventh-day Adventists property would include similar facilities, developed surfaces, and uses.
- ▶ Existing conditions related to hydrologic conditions and floodplain function of the South Fork Merced River would remain the same because the proposed action would not involve any modifications within the river or the 100-year floodplain.

A preliminary drainage report (Lars Andersen & Associates 2002) has been prepared for the project that describes drainage facilities required to ensure that the post-project rate and quantity of surface runoff does not exceed the pre-project conditions for the predicted 24-hour rainfall event during a storm with 2-year recurrence interval. Drainage features would include small onsite detention basins and underground storage volume in the form of buried 48-inch-diameter pipes. For the less frequent storms, the proposed drainage and storage facilities would be full and the incremental additional runoff from the new facilities would then contribute to flows offsite. All of the drainage from the project would be conveyed under Forest Drive via culverts to the South Fork Merced River.

A final drainage plan that provides designs and specifications for facilities necessary to ensure that the rate of stormwater runoff does not exceed the pre-project conditions for a 100-year storm event would be prepared for agency review and approval before building or grading permits would be issued by the agencies. No substantial offsite impacts to drainage facilities would occur because all of the drainage is conveyed to the South Fork Merced River floodplain corridor located immediately north of Forest Drive. The proposed facilities would dramatically reduce offsite drainage for the smaller frequent storm events compared to existing conditions because there are no currently existing onsite detention or retention facilities.

■ **Mitigation Measure 5.6-1: No mitigation measure is necessary.**

Summary of CEQA Analysis

The impact to drainage and runoff is considered less than significant because drainage facilities would be designed and installed consistent with the Mariposa County policies, and there would be no increased stormwater runoff compared to existing conditions. No mitigation is required.

Summary of NEPA Analysis

The potential stormwater drainage effects to facility capacity and onsite/offsite flooding represent both a local and regional impact depending on the amount of rainfall that occurs during each storm event. The project would represent a permanent change in storm drainage. The intensity of the effects would be negligible or minor. The incorporation of stormwater detention and retention facilities would be a beneficial impact, relative to the existing conditions.

Impact 5.6-2: Impacts to Groundwater Recharge or Use. *Redevelopment of Camp Wawona would involve construction activities that would compact soil, and would create new impervious surfaces (e.g., parking areas, building rooftops) that contribute to reduced infiltration of surface drainage to the groundwater aquifer. Installation of on-site detention and retention facilities for stormwater (see Impact 5.6-1) and restoration of the 15.36 acres of land to be exchanged from the Seventh-day Adventists to a natural condition would reduce this impact. Project long-term use of groundwater for Camp Wawona would not change appreciably from current conditions, and on-site wells have sufficient capacity to supply the future needs of the camp.*

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local (on-site)*

Duration of Impact: *Long-term (permanent)*

Intensity of Impact: *Negligible*

Type of Impact: *Adverse*

The small, incremental increase in impervious area created by the construction of proposed action facilities would not appreciably reduce infiltration of surface drainage to the groundwater aquifer. In addition, the onsite detention facilities and underground stormwater drainage storage would serve to increase recharge of frequent storm event runoff into the groundwater aquifer. The projected long-term use of groundwater for Camp Wawona operations would not change appreciably from current conditions. The increased use of the facilities as defined by the number of visitors is not expected to change appreciably. The onsite well has sufficient capacity to supply the camps future needs, therefore, no additional wells would be constructed.

■ **Mitigation Measure 5.6-2: No mitigation measure is necessary.**

Summary of CEQA Analysis

The potential impacts to groundwater recharge and groundwater conditions are considered less than significant because the potential project-related changes are small relative to the existing conditions. No mitigation is required.

Summary of NEPA Analysis

The potential adverse project-related groundwater effects represent long-term localized changes with negligible intensity.

Impact 5.6-3: Temporary Construction-related Water Quality Effects. *Redevelopment of Camp Wawona would involve construction activities (e.g., clearing, grading, excavating) that would expose soil to rain and wind. The disturbed soil would be subject to erosion and the discharge of sediment via stormwater runoff to off-site locations, including the South Fork Merced River. Construction materials (e.g., fuels, oils, paints, concrete) could also be conveyed off-site during storm events, potentially causing harm to fish and other aquatic life. The magnitude of this impact would be affected by the erodibility of the soil, the extent of the disturbed area at any one time, the proximity to receiving waters, and the amount of precipitation falling on disturbed ground. Construction activities could occur over a 10-year period. Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), including Best Management Practices, would be required to obtain a permit from the Regional Water Quality Control Board under the National Pollutant Discharge Elimination System (NPDES). Compliance with the SWPPP and the NPDES permit would minimize construction-related water quality effects.*

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local*

Duration of Impact: *Short-term (within separate construction seasons over 10-year development period)*

Intensity of Impact: *Minor*

Type of Impact: *Adverse*

The proposed action would involve extensive site development (e.g., clearing, grading, excavation, utility installation) and facility construction (e.g., roads, buildings). As ground is disturbed and vegetation is removed during construction, soil would be exposed to rain and wind, potentially causing erosion and discharge of sediment via stormwater runoff from the site. Erosion and sedimentation could result in a short-term increase in turbidity in streams, leading to reduced light penetration and subsequent reductions in prey capture for sight-feeding predators, as well as other long-term effects on aquatic organisms from sedimentation of their habitat. Runoff could also contain increased levels of naturally occurring nutrients (i.e., nitrogen and phosphorus) that can contribute to nuisance aquatic algae and vascular plant growth in aquatic environments. If they are released into the environment, construction materials such as fuels, oils, paints, and concrete are potentially harmful to fish and other aquatic life.

The extent of potential environmental effects to water quality depends on the erodibility of soil types encountered, the type of construction practices, the extent of the disturbed area and the duration of the disturbance, the timing of precipitation, and the proximity to receiving waters. Dewatering discharges to surface waters can also contain elevated levels of suspended sediments and other contaminants that may reside in the shallow groundwater.

Due to the relatively short construction season at the project area, local climate, and duration of anticipated construction activities, it is likely that disturbed soils and construction activities would be exposed to storm events. The above listed types of impacts from ground disturbances and construction activities could occur during demolition and restoration of the property being transferred to National Park Service ownership. Impacts could occur from

demolition of existing developments and construction at both the existing camp facility and the new parcel being acquired from The National Park Service. The duration of the demolition, restoration, and construction activities is expected to require at least 3 full summer construction seasons, phased over a 10-year development period. The majority of construction would occur during summer fair-weather seasons, when there is less chance for storm-related runoff and existing surface drainage swales would be expected to be dry. The NPDES permit and SWPPP would contain conditions and Best Management Practices to minimize potential construction-related runoff and stormwater pollution (see Section 5.6.3).

No new development or redevelopment would occur within the South Fork Merced River floodplain. Therefore, no direct impacts to this perennial water body would occur.

■ **Mitigation Measure 5.6-3: No mitigation measure is necessary.**

Summary of CEQA Analysis

The potential temporary construction-related impacts are considered less than significant because the applicant would be required to obtain authorization for the work with an NPDES stormwater permit for general construction activity through the RWQCB. Compliance with the County grading and erosion control regulations would also be required. A construction site dewatering NPDES permit would also be acquired, if necessary, through the RWQCB. In consideration of these regulatory requirements, no mitigation is required.

Summary of NEPA Analysis

The potential temporary construction-related water quality effects represent localized changes with minor intensity. Although construction may occur over several years during the 10-year development period, the impacts are considered short-term within any single construction season because the project area disturbances would be stabilized prior to the onset of rain and snow each fall.

Impact 5.6-4: Operations-related Water Quality Effects. *Redevelopment and future use of Camp Wawona would involve activities that could result in the transport of contaminants to local drainage courses or the South Fork Merced River. Potential contaminants include oil, grease, and fuel associated with motor vehicle use of roads and parking lots, and wastes associated with recreational activities such as horseback riding, hiking, and swimming. Recreational camp activities could also disturb steep slopes and erodible forest soils, contributing to soil erosion. Because Camp Wawona focuses on the use of native vegetation, potential contamination from pesticides and fertilizers is not expected to be significant. These operation-related issues are all existing conditions. The relatively small increase in proposed use of the camp would result in a relatively small increase in these impacts. The number of horses used at the camp would not change, nor would the nature of recreational activities in the South Fork Merced River floodplain. The installation of retention and detention facilities for stormwater runoff, which do not exist at Camp Wawona at this time, would further reduce the potential of off-site contamination during storm events (see Impact 5.6-1).*

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact:	<i>Local (on-site) and regional (off-site)</i>
Duration of Impact:	<i>Long-term (permanent)</i>
Intensity of Impact:	<i>Minor</i>
Type of Impact:	<i>Adverse</i>

Long-term operations-related water quality could change as a result of the proposed action. Motor vehicle traffic within the project area, and associated use of parking lots, can distribute potential contaminants (e.g., oil, grease, fuel) that may collect on parking lots and other land surfaces and later be transported into the local drainage courses or the South Fork Merced River by stormwater runoff. The Seventh-day Adventists maintain minimal artificial landscaping at Camp Wawona. Therefore, there are few or no anticipated sources of contaminants such as pesticides or fertilizers. Recreational activities on the camp property, including horseback riding, hiking, and swimming would be the prominent potential sources of contaminants to runoff.

Recreation activities on the property and nearby National Park Service trails can also disturb steep slopes and erodible forest soils that cause or contribute to soil erosion, and introduce contaminants such as trash, animal wastes, or direct discharge of human wastes in swimming areas from body contact. Recreational soil disturbances and associated contaminants could enter runoff and downstream receiving waters, primarily during the winter and spring rainfall season when soils are saturated and runoff is likely. Swimming activities have the potential to affect regional downstream water quality conditions during the summer.

In general, the potential impacts would not be expected to change appreciably from existing conditions because projected visitor rates at the camp are expected to increase by a relatively small incremental amount over the existing use rates. Consequently, all of the listed recreational activities and potential contaminant sources would be expected to remain largely unchanged. The number of horses kept at Camp Wawona would not change. Existing potential long-term project operations-related water quality effects of activities conducted in the South Fork Merced River floodplain would remain nearly the same because the project is not proposing any substantial changes to the amount or intensity of uses, particularly during the summer.

The incremental increase in impervious surface area and associated increased runoff delivered to the stormwater drainage system has the potential to contribute additional contaminants in runoff. The number of vehicle parking spaces and slight increase in visitors during the summer could contribute additional wastes to runoff that are associated with vehicle emissions (i.e., oil, grease). However, the proposed stormwater drainage facilities and underground stormwater storage system would largely eliminate runoff of contaminants for the frequent storms of less than 2-year recurrence interval. The soil would serve to filter contaminants that enter the stormwater drainage and underground storage system. The majority of contaminant runoff occurs during the initial runoff generated during storms. Therefore, the drainage and underground storage system would also be effective at reducing contaminant runoff during less frequent and greater intensity storm events. In addition, the NPDES stormwater permit for general construction activity requires the applicant to consider permanent post-

construction BMPs to minimize off-site contaminant runoff. Currently, there are no similar stormwater detention facilities located at Camp Wawona. Therefore, the proposed redevelopment project may represent a net decrease in contaminant runoff compared to existing conditions.

■ **Mitigation Measure 5.6-4: No mitigation measure is necessary.**

Summary of CEQA Analysis

The potential long-term water quality impacts from operation and maintenance of Camp Wawona are considered less than significant because contaminant runoff associated with recreation activities and impervious surfaces would be increased slightly due to increased usage, or possibly decreased compared to existing conditions due to the installation of detention and retention facilities and other permanent BMPs required for the NPDES permit. No mitigation is required.

Summary of NEPA Analysis

The potential long-term water quality effects represent both localized and potentially regional scale changes with minor intensity. The potential impacts are considered long-term as they are primarily associated with the projected occupation and use of Camp Wawona.

Cumulative Impacts

Cumulative effects to hydrologic processes are based on analysis of past, present, and reasonably foreseeable future actions in the South Fork Merced River valley in combination with potential effects of the proposed action. There are no identifiable other projects known that would combine to cause or contribute to adverse onsite or offsite stormwater drainage, groundwater recharge and aquifer conditions, temporary construction water quality effects, or long-term operations water quality effects. The possible development of employee housing by the National Park Service in the Wawona area would involve comparable requirements to manage temporary and long-term erosion and stormwater runoff. Cumulative impacts would not be significant under CEQA or NEPA.

Impairment

With compliance with the regulatory requirements noted above, there would be no impairment to park resources or values associated with hydrology and water quality.

IMPACTS OF PROJECT ALTERNATIVES

Impacts to hydrology and water quality related to the no project alternative and the three alternative land exchange proposals are described below. The detailed impact analysis described for the proposed action is referenced, as appropriate.

No Project Alternative

The No Project Alternative requires the removal of existing encroachments of Camp Wawona (i.e., the removal of three buildings, a portion of the Campfire Bowl area, the eastern end of the main entrance road, and a segment of the paved road to the south). All disturbed land would be restored to a native condition.

The No Project Alternative has the potential to create temporary construction-related water quality impacts as described for Impact 5.6-2. The extent of the impacts in terms of size, location, intensity, and duration would be minimal, as the size of disturbed areas and the duration of construction-related activities under this alternative would be small and require minimal effort to complete. Compliance through the RWQCB for the NPDES stormwater permit for general construction activity and Mariposa County for grading and erosion control regulations may be required depending the specific land disturbances that would be involved.

There would be no long-term operations-related hydrologic or water quality impacts because current camp activities would not be changed.

No Land Exchange Alternative

The No Land Exchange Alternative requires the removal of existing encroachments of Camp Wawona and the restoration of disturbed land to a native condition. Conforming future improvements on the Seventh-day Adventist property could be approved by the County and the National Park Service.

The No Land Exchange Alternative has the potential to create the identical temporary construction-related water quality impacts described for the No Project Alternative, unless the Seventh-day Adventists redeveloped the camp on the current 30.45-acre parcel of land. In this case, the impacts would be nearly identical to those described for the proposed. Project-specific environmental compliance would be required in the future for proposed improvements on the existing property, including NPDES permits, preparation of a SWPPP, and compliance with County grading and erosion control requirements. Long-term operations-related hydrologic or water quality impacts would either be the same as the proposed action (if the camp were redeveloped) or would not change from current conditions if the camp were not redeveloped.

Reduced Land Exchange Alternative

The Reduced Land Exchange Alternative is similar to the proposed action/action; however, this alternative would involve only 8.5 acres of existing Seventh-day Adventists land that would be exchanged to the National Park Service for 10 acres of current National Park Service property. The potential temporary construction-related water quality impacts associated with the Minimal Land Exchange Alternative would be essentially the same as those described for the proposed action. However, the intensity may be slightly less as the area of disturbances to undeveloped land may be reduced compared to the proposed action. All of the long-term

operations-related hydrologic and water quality impacts would be identical to the proposed action because visitor uses would be the same as described for the proposed action.

Minimal Land Exchange Alternative

The Minimal Land Exchange Alternative is similar to the Reduced Land Exchange Alternative. This alternative would involve the exchange of 5.6 acres of existing Seventh-day Adventists land to the National Park Service for 6.6 acres of current National Park Service property

Assuming redevelopment of the camp would be comparable to the proposed action – but more focused on currently developed property - the Minimal Land Exchange Alternative would result in nearly identical temporary construction-related water quality impacts, as described for the proposed action. Long-term hydrologic and water quality impacts also would be essentially identical to those described for the proposed action.

SUMMARY OF MITIGATION MEASURES

- **MM 5.6-1:** No mitigation measure is necessary.
- **MM 5.6-2:** No mitigation measure is necessary.
- **MM 5.6-3:** No mitigation measure is necessary.
- **MM 5.6-4:** No mitigation measure is necessary.

5.7 GEOLOGY AND SOILS

5.7.1 IMPACT METHODOLOGY AND ASSUMPTIONS

The effects of the proposed action and project alternatives were analyzed using guidelines prepared for both CEQA and NEPA analysis, including relevant National Park Service guidance, as described below. Assumptions critical to the impact analysis are also described in this section.

CEQA THRESHOLDS

The CEQA significance criteria are based on Appendix G of the CEQA Guidelines. Accordingly, the potential project-related impacts associated with geologic and soil resources are considered significant under the following conditions:

Seismic Hazards

- ▶ Expose people or structures to potential adverse effects, including the risk of loss, injury or death involving strong seismic shaking or seismic-related ground failure such as liquefaction and landslides.

Soil Properties

- ▶ Be located on a geologic unit that is unstable, or that would become unstable as a result of the proposed action, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- ▶ Be located on expansive soil, creating substantial risks to life or property.
- ▶ Result in substantial soil erosion or the loss of topsoil.

NEPA/NATIONAL PARK SERVICE THRESHOLDS

This impact assessment focused on effects that development of the proposed Camp Wawona facilities could have on visitors, personnel, and facilities with respect to exposure to geologic hazards. Adverse geologic processes include earthquakes and severe soil instability that has potential to result in injury, death, or damage to facilities. The assessment also focused on the potential impacts of project alternatives on the conservation of soil resources. Land development activities have the potential to adversely affect soil resources through accelerated erosion, soil loss, or soil removal.

Context of Impact

For the purposes of this assessment, the context of the impact considers whether the impact would be local or regional. Localized geologic and soils impacts are those that occur to

resources on the project area or immediately adjacent properties. Larger scale or regional impacts refer generally to those occurring in offsite locations.

Duration of Impact

The duration of the impact considers whether the impact would occur in the short term or the long term. Short-term geologic and soils impacts refer to those that occur on a temporary or intermittent basis and quickly dissipate, either naturally or by implemented mitigation measures. A period of one (1) year is a common threshold used to delineate a short-term impact from a longer-term or permanent impact.

Intensity of Impact

The intensity of the impact considers whether the impact would be negligible, minor, or major. Negligible impacts would be imperceptible and not detectable by normal analytical methods. Minor impacts would be slightly perceptible and/or affect substantially less than the majority of the area or resource in question, without the potential to expand if left alone or not mitigated. Major impacts would be highly noticeable, may be permanent, or could increase if left alone. Major adverse impacts are also defined as those effects that would occur to a majority or the area or resource in question.

Type of Impact

Impacts were evaluated in terms of whether they would be beneficial or adverse. The focus of the impact analysis is for potential adverse impacts and beneficial impacts are generally considered to be effects that have the reverse of the adverse changes described below. Geologic impacts generally consist of exposure of visitors, personnel, or facilities to hazards such as earthquakes, slope stability, landslides, debris flow, rockfall, and liquefaction. Soil resources impacts generally address project-related exposure or creation of erosion, topsoil loss or removal, or expansive clay soil hazards.

ASSUMPTIONS

The proposed action would not be located on a known earthquake fault, would not involve the use of onsite septic systems, and the project area has a low probability of containing expansive clay soils or liquefaction potential. A site-specific geotechnical report, described below, would document any potential small-scale soil stability concerns, and recommend appropriate design and construction standards accordingly. This analysis does not discuss further the issues associated with the potential project-related impacts from these hazards.

Several assumptions regarding the major geotechnical considerations for the project and facility placement, geologic design parameters, and public safety were integrated into this assessment, as summarized below.

- ▶ It is not possible to avoid all risks associated with geologic processes such as earthquakes, landslides, and rock fall because these events are not predictable in all locations.

Considering this, some facilities located within the project area could be exposed to these risks.

- ▶ Large impact, low frequency geologic hazards that affect public safety are rarely predictable, and the extent to which they may affect people and property cannot be quantified. Analysis of such effects is therefore qualitative, and professional judgment was applied to reach reasonable conclusions as to the context, duration, and intensity of potential impacts.
- ▶ Low to moderate impact, high frequency geologic hazards can be forecast and appropriate mitigation measures taken to reduce the risk to public safety. All seismic events are potentially hazardous but can be mitigated with geotechnical and structural engineering design.
- ▶ Generally, maintaining facilities within or moving facilities into a zone of higher risk or exposing people to greater levels of risk would be considered adverse. Specifically, the type of impact would be considered adverse if there is a net increase in the exposure of visitors, personnel, and facilities to existing geologic or soils hazards.

It is also assumed that a pre-construction geologic investigation report would be prepared and its recommendations incorporated into the project design prior to approval of grading or building permits by the National Park Service or County. The geotechnical report would include evaluation of the regional and site-specific geology, as well as a soils and foundation investigation. This report would include a detailed seismic hazards analysis to determine the potential for strong ground acceleration and ground shaking, and structural design recommendations to be incorporated into project components. Geotechnical studies to determine soil stability conditions would be performed prior to placing, designing, or relocating a facility within the project area, and facility design within the project area would conform to accepted building codes regarding seismic design parameters.

Areas of expansive or severely erodible soils would be identified as part of the site-specific geotechnical investigation. The report would specifically address foundation and slope stability in expansive and erodible soil areas proposed for construction. Recommendations made would be implemented during final design and construction.

Appropriate geotechnical design measures to mitigate erodible soil impacts include, but are not limited to, the following:

- ▶ construct drainage control devices (storm drains, ditches, subdrains, etc.) to direct surface runoff away from slopes and other graded areas,
- ▶ provide seeding of disturbed and constructed slopes with groundcover vegetation as soon as possible following grading activities, or
- ▶ minimize disturbance to existing vegetation and slopes.

During subsurface utility or other structure construction activities, protective measures would be taken based on specific recommendations of a geotechnical engineer to protect the safety of construction workers. Specific measures may include, but are not necessarily limited to, actions such as bracing or reinforcing the sides of trenches and falsework.

To protect the safety of facility personnel, ensure the integrity of the electrical, water, wastewater, and other critical utility systems, and minimize disruption to services, the applicant should prepare a response plan for the proposed facilities outlining post-earthquake inspection and repair plans to evaluate any damage that may have occurred. Inspection procedures would ensure the integrity of the mechanical systems, and, if service is disrupted, determine what is necessary to make facilities operational as soon as possible.

5.7.2 IMPACT ANALYSIS

Because the consideration of impacts to geology and soils resources is comparable under CEQA, NEPA, and relevant National Park Service policies, the following analysis addresses both state and federal guidelines. The impacts associated with the proposed action are described first, as are mitigation measures that would avoid or reduce significant adverse impacts. Following the discussion of each potential impact, summary statements specific to both CEQA and NEPA/National Park Service standards are provided.

The discussion of the proposed action is followed by a description of impacts associated with the project alternatives. Any substantial differences between impacts associated with the alternatives, as compared to the proposed action, are described. If impacts are generally comparable to the proposed action, this conclusion is briefly stated.

IMPACTS OF PROPOSED ACTION

Impact 5.7-1: Construction and Long-term Operation-related Erosion. *Redevelopment of Camp Wawona would involve construction activities (e.g., clearing, grading, excavating) that would expose soil to rain and wind. The Conceptual Master Plan (see Figure 2.6) takes into account the varied topography of the project site, and minimizes grading and excavation activities on slopes in excess of 20 %. Soil disturbed during construction would be subject to erosion and the discharge of sediment via stormwater runoff to off-site locations, including the South Fork Merced River. Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), including Best Management Practices, would be required to obtain a permit from the Regional Water Quality Control Board under the National Pollutant Discharge Elimination System (NPDES). Compliance with the SWPPP and the NPDES permit would minimize construction-related water quality effects (see Impact 5.6-3). Long-term operation of Camp Wawona would involve recreational activities (e.g., horseback riding) that could damage vegetation, compact the ground surface, or disturb soils leading to erosion. These long-term effects would not be expected to change appreciably from existing conditions, because the projected increase in use of the camp is relatively small, and no additional horses would be used.*

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local*

Duration of Impact: *Short-term (construction); Long-term (operations)*

Intensity of Impact: *Minor*
Type of Impact: *Adverse*

The proposed action would involve extensive site development (e.g., clearing, grading, excavation, utility installation) and facility construction (e.g., roads, buildings). However, topsoil would be salvaged and used during the restoration activities (see Section 2.4) or used as fill elsewhere on the project site. As ground is disturbed and vegetation is removed during construction of new camp developments, soil would be exposed to rain and wind, potentially causing erosion. Potential temporary erosion could also occur during demolition of existing facilities and during restoration of the property being transferred to National Park Service ownership. The conceptual master plan (see Figure 2.6) for the proposed action has taken into account the varied slopes on the National Park Service property proposed for exchange, and minimizes grading and excavation activities on slopes in excess of 20 %. Regulatory requirements related to erosion control, and associated impacts to water quality, are described in Section 5.6.

Long-term operations of Camp Wawona would shift recreational uses from portions of the existing camp property and all of the land being transferred to the National Park Service, to the new property along Forest Drive to be acquired by the Seventh-day Adventists. Recreational activities (hiking, equestrian activities, etc.) have the potential to disturb soils leading to erosion, compaction of soils, and possibly some minor amounts of vegetation loss from trampling. In general, these long-term effects would not be expected to change appreciably from existing conditions because projected visitor rates at the camp are expected to increase by a relatively small amount over the existing use rates. Consequently, the listed recreational activities would be expected to remain largely unchanged. The impacts of long-term use of the camp relative to possible erosion and associated water quality impacts are described in Section 5.6.

■ **Mitigation Measure 5.7-1: No mitigation measure is necessary.**

Summary of CEQA Analysis

The short-term and long-term impacts associated with soil erosion are considered less than significant because the applicant would comply with applicable erosion control regulations contained in the Mariposa County grading and erosion control ordinance and National Pollutant Discharge Elimination System (NPDES) stormwater permit (see Section 5.6).

Summary of NEPA Analysis

The potential temporary construction-related erosion effects represent localized changes with minor intensity. Although construction may occur over several years, the impacts are considered short-term within any single construction season because the project area disturbances would be stabilized prior to the onset of rain and snow each fall. The long-term operations-related effects associated with soil erosion are also considered to be localized with

minor intensity. See Section 5.6 for more detailed analysis of potential project impacts related to soil erosion.

Impact 5.7-2: Seismic Hazards. *The project site, including the current Seventh-day Adventists property and the 18-acre National Park Service parcel, is in an area of moderate risk of seismic activity. Ground shaking could expose construction workers, visitors, and camp personnel to injury. Ground shaking is an unavoidable hazard for all facilities in the project area. The intensity of ground shaking depends on the magnitude of the earthquake, the distance of the facility from the epicenter of the earthquake, and the duration of the event. The risk to camp visitors and camp employees is currently present. The fact that most of the existing structures at Camp Wawona are comparatively old with respect to modern building codes, building materials, and construction practices, indicates that the safety of facilities and resistance to failure during seismic events would be improved.*

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local*

Duration of Impact: *Long-term (permanent)*

Intensity of Impact: *Minor (based on history of seismic activity in the immediate area)*

Type of Impact: *Beneficial (based on adherence to current building codes and safety standards)*

Ground shaking within the project area could expose construction workers, visitors, personnel and project facilities to damage or injury. As described in Chapter 4.7, the project area is considered to have a moderate risk of seismic activity. Ground shaking is an unavoidable hazard for facilities within the project area. Intensity of the ground shaking would depend upon the magnitude of the earthquake, the distance of a facility from the epicenter, and the duration of shaking. The damage sustained, and degree of hazard, depends on the seismic hazards of each specific site, the type of structure and its building materials, and construction quality. The majority of structures and infrastructure would be placed in the moderate slope areas on the property; the steeper slope areas would be reserved for recreation and open space uses.

The potential long-term project-related exposure of visitors, personnel, and facilities to seismic activity would not change appreciably from current conditions because the size and use of the proposed action is not expected to increase substantially. Because the majority of existing facilities are comparatively old with respect to modern building construction codes and practices, the safety of facilities and resistance to failure during seismic events are expected to be improved because structures and utility upgrades planned for the proposed action would comply with current building codes and safety requirements.

■ **Mitigation Measure 5.7-2: No mitigation measure is necessary.**

Summary of CEQA Analysis

This impact is considered less than significant because the project area is not located near any known active faults and does not have a history of frequent and predictable seismic activity. In

addition, the applicant would prepare a geotechnical report prior to approval of grading or building permits. This report would identify appropriate construction practices to ensure that facilities meet the applicable building codes for seismic protection. No mitigation is required.

Summary of NEPA Analysis

The potential long-term effects associated with seismic activity and the proposed action represents a generally localized context and no offsite effects are expected to occur. The intensity of the effects are generally unpredictable, but are expected to be minor given the known history of seismic activity in the area. Beneficial impacts to visitor safety are expected to occur with construction of new structures in compliance with current building codes and safety standards.

Cumulative Impacts

Cumulative effects to soils and geologic processes are based on analysis of past, present, and reasonably foreseeable future actions in the South Fork Merced River valley in combination with potential effects of the proposed action. There are no identifiable other projects known that would combine to cause or contribute to adverse onsite or offsite erosion or seismic activity effects. The possible development of employee housing by the National Park Service in the Wawona area would involve comparable requirements to manage temporary and long-term soil erosion. Cumulative impacts would not be significant under CEQA or NEPA.

Impairment

Erosion can damage native vegetation, contribute sediment to water bodies that degrades water quality, and adversely affect aquatic life. Therefore, soil erosion has the potential to adversely affect natural resources that are critical to Yosemite National Park. With compliance with the regulatory requirements related to erosion control noted above, there would be no impairment to park resources or values associated with geology and soils.

IMPACTS OF PROJECT ALTERNATIVES

Impacts to geology and soils related to the no project alternative and the three alternative land exchange proposals are described below. The detailed impact analysis described for the proposed action is referenced, as appropriate.

No Project Alternative

The No Project Alternative requires the removal of existing encroachments of Camp Wawona (i.e., the removal of three buildings, a portion of the Campfire Bowl area, the eastern end of the main entrance road, and a segment of the paved road to the south). All disturbed land would be restored to a native condition.

The No Project Alternative has the potential to create temporary construction related soil erosion impacts as described for Impact 5.6-3 and 5.7-1. The extent of the impacts in terms of

size, location, intensity, and duration would all be minimal as the size of disturbed areas would be small and require minimal effort to complete. The applicant's commitments to implementing grading and erosion control regulations as necessary for compliance with County grading erosion and control regulations and NPDES stormwater permit requirements would minimize the specific land disturbances. No mitigation is required under CEQA.

There would be no long-term effects associated with erosion or seismic activity because current Camp Wawona activities would not be changed.

No Land Exchange Alternative

The No Land Exchange Alternative requires the removal of existing encroachments of Camp Wawona and restoration of disturbed land to a native condition. Conforming future improvements on the Seventh-day Adventists property could be approved by the County and the National Park Service.

The No Land Exchange Alternative has the potential to create the identical temporary construction related water quality impacts described for the No Project Alternative, unless the Seventh-day Adventists redeveloped the camp on the current 30.45-acre parcel of land. In this case, soils impacts would be nearly identical to those described for the proposed action (see Impact 5.7-1), although some steep slopes that would be left as open space in the proposed action may be developed to accommodate desired redevelopments. Long-term effects associated with soil erosion or seismic activity would be the same as the proposed action (if the camp were redeveloped) or would not change from current conditions if the camp were not redeveloped time.

Reduced Land Exchange Alternative

The Reduced Land Exchange Alternative is similar to the proposed action/action; however, this alternative would involve only 8.5 acres of existing Seventh-day Adventists land that would be exchanged to the National Park Service for 10 acres of current National Park Service property. The potential short-term and long-term soil erosion impacts associated with the Minimal Land Exchange Alternative would be similar to those described for the proposed action. However, the intensity may be slightly less as the area of disturbances may be reduced compared to the proposed action. Conversely, redevelopment of the camp under this scenario may necessitate construction on steeper slopes that would be left as open space under the proposed action.

The potential effects associated with seismic activity would be nearly identical to those described for Impact 5.7-2 because proposed facility construction and long-term operations would be the same as described for the proposed action.

Minimal Land Exchange Alternative

The Minimal Land Exchange Alternative is similar to the Reduced Land Exchange Alternative. This alternative would involve 5.6 acres of existing Seventh-day Adventists land that would be

exchanged to the National Park Service for 6.6 acres of current National Park Service property.

Assuming redevelopment of the camp would be comparable to the proposed action – but more focused on the currently developed property - the Minimal Land Exchange Alternative would result in nearly identical impacts associated with soil erosion and seismic activity, as described for the proposed action.

SUMMARY OF MITIGATION MEASURES

- **MM 5.7-1:** No mitigation measure is necessary.
- **MM 5.7-2:** No mitigation measure is necessary.

5.8 AESTHETICS AND VISUAL RESOURCES

5.8.1 IMPACT METHODOLOGY AND ASSUMPTIONS

This section addresses potential impacts on aesthetic and visual resources in the proposed action area related to construction of the proposed Camp Wawona Redevelopment and Proposed Land Exchange project. The analysis was based on impact thresholds and guidelines established for both CEQA and NEPA, including specific National Park Service policies and guidelines, as described below. Assumptions critical to the impact analysis are also described in this section.

CEQA THRESHOLDS

CEQA significance criteria listed below are based on the CEQA Guidelines. The criteria related to aesthetics and visual resources in the draft County's General Plan Update are also considered in this analysis, but are not used as the basis for determining a significant impact, because the General Plan Update has not yet been adopted by the County. According to the CEQA Guidelines, the visual impact of a proposed action is deemed significant if it would:

- ▶ have a substantial adverse effect on a scenic vista;
- ▶ substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- ▶ substantially degrade the existing visual character or quality of the site and its surroundings; or
- ▶ create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

NEPA/NATIONAL PARK SERVICE THRESHOLDS

The overriding management purpose of any national park, as defined by the National Park Service 1916 Organic Act, is to conserve the scenery and natural and historic objects. Following this direction, impacts on scenic resources are assessed by examining the potential changes to the landscape character and/or features, and how these changes may be experienced (visibility, key observation points, etc.).

A quantitative analysis of impacts to scenic resources was based on both the effects on principal scenic features and the effects on the views from particular key observation points (KOPs). Eleven significant features were established in the 1980 Yosemite General Management Plan. The Plan did not identify any significant scenic features or important KOPs on or near the proposed action site. Therefore, to analyze the degree of impact from sensitive receptors, five KOPs were chosen at various locations to represent views of potential concern. Each KOP was analyzed using the above NEPA/National Park Service criteria. The KOPs were located along major or significant travel corridors, trails, near residential areas, and along the Merced River.

Figure 5.8-1 depicts the locations of these KOPs, as well as the viewshed where the proposed action is visible from various locations.

Impacts of the proposed action and project alternatives on visual resources were examined and determined by:

- ▶ comparing the existing visual character of the landscape in terms of the color, contextual scale, and formal attributes of landscape components and features, and the degree to which actions that may result from the proposed action would affect (i.e., contrast or conform with) that character; and
- ▶ analyzing changes in experiential factors on KOPs, such as whether a given action would result in a visible change, the duration of any change in the visual character, the distance and viewing conditions under which the change would be visible, and the number of viewers that would be affected.

Context of Impact

Local visual impacts are those that would be perceptible to users of Forest Drive, users of nearby trails, and nearby residences. Visual impacts relevant on a regional scale would be those changes perceptible elsewhere in the project viewshed (see Figure 5.8-1).

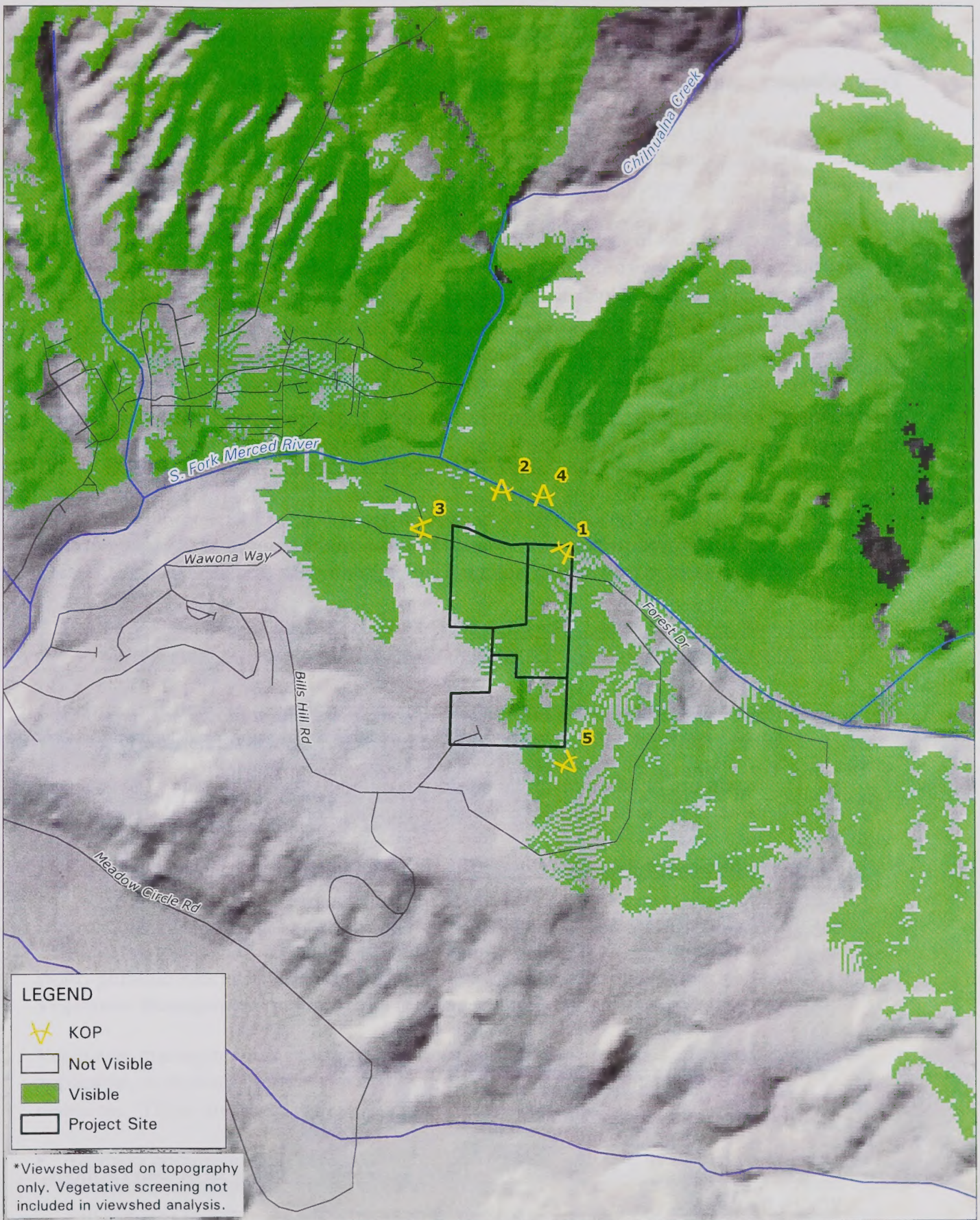
Duration of Impact

The duration of visual impact considers whether the overall visual change would be short-term or long-term, and whether the views of that change from KOPs are long-term or short-term. Project changes related to construction, restoration, or demolition activities, which are expected to occur over a 10-year period, are considered short term. Long-term impacts relate to permanent and continued development and use of new camp facilities. Views as seen from residences are considered long-term. Generally, views from recreational lands (e.g., trailheads) are considered short term due to the nature of those uses.

Intensity of Impact

The magnitude of impacts to the scenery within the view from specific KOPs and to specific scenic features is described as negligible, minor, moderate, or major as described below.

- ▶ Negligible impacts would be imperceptible or not detectable.
- ▶ Minor impacts would be slightly detectable or localized within a relatively small area.
- ▶ Moderate impacts would be those that are readily apparent.
- ▶ Major impacts would be substantial, highly noticeable, and/or result in changing the character of the landscape.



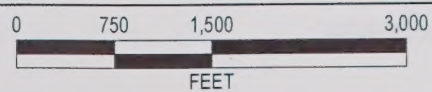
Source: USGS 10m DEMs

Viewshed Map* with Key Observation Points (KOPs)

FIGURE 5.8-1

Camp Wawona Redevelopment and Land Exchange EIR

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EDAW

Type of Impact

Impacts were evaluated in terms of whether they would be beneficial or adverse to scenic resources. Beneficial impacts would enhance the existing landscape character, access to historically important viewpoints or sequence of viewpoints, or the improved visibility of a viewpoint or sequence of viewpoints. Adverse impacts would be effects that reduce the existing landscape character, access to historically important viewpoints or sequence of viewpoints, or decrease the visibility of a viewpoint or sequence of viewpoints. In situations where impacts would be imperceptible to affected viewers, the type of impact is considered neutral – that is, neither beneficial nor adverse.

ASSUMPTIONS

The analysis of visual resource impacts assumes that the following measures would be designed into the proposed action or project alternatives (NPS 2000a, Coats Consulting 2002).

Development Standards

These measures are designed to minimize visual intrusions on the environment. Many of these measures would also assist in minimizing potential biological impacts (see Section 5.4). These include:

- **Mitigation Measure 5.8-3: Use Previously Disturbed Areas for Staging Areas.**
 - Minimize development footprints by placing staging areas in previously disturbed areas and away from sensitive receptors (i.e., residences along Forest Drive).
 - The maximum building coverage would be limited to 10 % of the site. Lot coverage is defined as the area of the lot covered by buildings or other enclosed structures.
- **Mitigation Measure 5.8-4: Use Visually Compatible Building Materials and Colors.**
 - Building materials that are visually compatible or do not compete with the landscape would be used. All buildings would be painted using colors compatible with the natural environment (e.g., brown, forest green). Preferable building colors would be two shades darker than the natural environment.
- **Mitigation Measure 5.8-5: Use Non-Reflective Surfaces.**
 - All roofing and fencing would have non-reflective surfaces.
- **Mitigation Measure 5.8-6: Provide Vegetative Screening or Buffer to Screen Facilities, Where Applicable.**

- Vegetative screening for camp buildings would be provided, where applicable, with retention of the existing forest landscape to be used as screening whenever possible. A visual buffer would be provided along the south side of Forest Drive. This buffer would aid in screening the facilities from this public road. In addition, an undeveloped corridor 50-feet-wide would be preserved on the west side of the project boundary to provide a buffer between the facilities and the closest private residences.
- No building would be constructed higher than 35 feet above the average ground level, or no greater than two stories, unless approved as to compliance with the fire safety regulations of the agency providing structural fire protection service in the area. No accessory structure would exceed 20 feet in height from the average ground level.

■ **Mitigation Measure 5.8-7: Restrict Water Tank Height and Color.**

- All water tanks would be no more than 35 feet above the average ground level and would be painted forest green to blend in with the natural environment. These tanks would be placed away from sensitive viewsheds (i.e., closest residences).

■ **Mitigation Measure 5.8-8: Linear Infrastructure Should be Placed to Blend With the Natural Environment.**

- Installation of linear infrastructure (e.g., power lines) would not entail clearing of forested corridors. Electric transmission facilities and telephone poles would be placed above-ground to avoid clearing corridors and disturbing native soil. Utility poles would be brown in color and would be placed in a manner to blend with the natural environment, to the extent practical.
- Grading would be confined primarily to areas sloped at 20% or less. If grading activities are necessary within areas sloped at 20% or greater, an erosion control plan shall be prepared identifying appropriate erosion control measures (see Section 5.6).

Vegetative Management

Vegetative management measures would occur prior to, during, and after construction, as applicable, to minimize immediate and long-term impacts to vegetation and associated scenic resources. These measures include the following:

- Develop and implement revegetation plans for areas temporarily disturbed during construction, including the use of native species. Revegetation efforts would include topsoil salvage and re-use, topsoil preparation (if needed), placement of native seeds/plants, and mulching for areas temporarily disturbed by construction activities.

- ▶ Develop and implement a monitoring plan to ensure successful revegetation, maintain plantings, and replace unsuccessful plant materials.
- ▶ Salvage vegetation to the extent possible for use in revegetating disturbed areas.
- ▶ Site buildings and trails to minimize impacts to vegetation and avoid large trees, where possible.
- ▶ Select base course and fill materials for compatibility with native granitic soils to minimize risk of introducing non-native plant seeds. Monitor areas where fill is imported from outside the project, and eradicate non-native plants. Apply standard techniques to prevent non-native plant encroachment.
- ▶ Develop monitoring and mitigation plans for managing non-native plants within and immediately surrounding construction and developed areas.
- ▶ Confine all construction operations to specified project work limits. Install temporary barriers to protect natural surroundings (including trees, plants, and root zones) from damage. Repair or replace damaged trees and plants, and avoid fastening ropes, cables, or fences to trees.
- ▶ Install fencing to minimize use of highly sensitive sites such as river edges and wetlands, and install signs as needed to direct use to more appropriate areas. Placement of fencing and signs would be developed in consultation with biological resource staff from National Park Service and the County.
- ▶ Use native or seed-free mulch to minimize surface erosion and introduction of non-native plants.
- ▶ Comply with the Vegetation Management Plan (NPS 1997) for landscaping and yard care within and around developed areas, including minimization of irrigation systems, planting with native species appropriate to the site, or landscaping (if appropriate) with approved non-spreading, non-native plants.
- ▶ Define trails, pathways, and boundaries of development to reduce radiating impacts.

Lighting Standards

- ▶ All exterior lighting should be designed and located so as to confine lighting directly on the premises and should not shine light upon other properties in the vicinity. A light source should have a maximum output of 150 watts and shall not shine upon or illuminate directly on any surface other than the area required to be lighted. Lighting shall not be of the type or in a location which constitutes a hazard to vehicular traffic, either on private property or on abutting private or public roads.

- ▶ Light sources in new development must be compatible with the existing rural character, and not produce glare that would interfere with vision.
- ▶ Lighting standards established by the Dark Sky Association state that all building materials must have a low reflective index – these standards should be used.

■ **Mitigation Measure 5.8-9: Shield and Direct Lighting.**

- All lighting should be shielded and point downward to avoid day or nighttime glare.

5.8.2 IMPACT ANALYSIS

Because the consideration of impacts to aesthetic and visual resources is different under CEQA than under NEPA and relevant National Park Service policies, the following analysis addresses state and federal guidelines separately. The impacts associated with the proposed action are described first, as are mitigation measures that would avoid or reduce significant adverse impacts. Following the discussion of each potential impact, summary statements specific to both CEQA and NEPA/National Park Service standards are provided.

The discussion of the proposed action is followed by a description of impacts associated with the project alternatives. Any substantial differences between impacts associated with the alternatives, as compared to the proposed action, are described. If impacts are generally comparable to the proposed action, this conclusion is briefly stated.

IMPACTS OF PROPOSED ACTION

CEQA Analysis

Impact 5.8-1: Impacts on a Scenic Vista. *The redevelopment of Camp Wawona would not occur within a scenic vista visible to tourists or motorists. There are no designated scenic vistas near the proposed action site. No impact to scenic vistas would occur.*

CEQA Significance:	No impact
NEPA Significance:	N/A (this is a CEQA-only consideration)
Context of Impact:	N/A
Duration of Impact:	N/A
Intensity of Impact:	N/A
Type of Impact:	N/A

The proposed action is located in the Town of Wawona, within Yosemite National Park. Although Yosemite National Park is renowned for picturesque landscapes, the proposed action is not located within a scenic vista that would be visible to tourists or motorists. There are no designated scenic vistas near the proposed action site.

■ **Mitigation Measure 5.8-1: No mitigation measure is necessary.**

Summary of CEQA Analysis

There would be no impact on a scenic vista or designated scenic route.

Impact 5.8-2: Substantial Damage to Scenic Resources, including but not limited to, Trees, Rock Outcroppings, and Historic Buildings within a State Scenic Highway. *The redevelopment of Camp Wawona would not occur within the viewshed of a scenic highway. State Route 140 is a designated scenic highway, but is approximately 15 miles from the proposed action. State Routes 41 and 49 are eligible for designation under the scenic highway program. State Route 41 is approximately 4 miles to the south of Camp Wawona. State Route 49 is approximately 8 miles away. The proposed action site is not visible from either of these roads, so no visual impacts to scenic highways would occur.*

CEQA Significance: No impact

NEPA Significance: N/A (this is a CEQA-only consideration)

Context of Impact: N/A

Duration of Impact: N/A

Intensity of Impact: N/A

Type of Impact: N/A

There is one designated State Scenic Highway, State Route 140 from Mariposa to Yosemite National Park, in Mariposa County (Caltrans 2003). State Route 140 is located approximately 15 miles from the proposed action site. In addition, two state highway segments are eligible for designation under the Caltrans State Scenic Highways system. These highways are: State Route 41 from Yosemite National Park to Oakhurst, approximately 4 miles from Camp Wawona, and State Route 49 through Mariposa County, approximately 8 miles from the proposed action (Caltrans 2003). Tioga Pass Road in Yosemite National Park is designated a National Scenic Byway. The Byway is approximately 20 miles away and Camp Wawona is not visible from this road.

■ **Mitigation Measure 5.8-2: No mitigation measure is necessary.**

Summary of CEQA Analysis

The proposed action site is not visible from a designated state highway, national scenic byway, or any highway eligible for designation. Therefore, there would be no impact to scenic resources within these designated corridors.

Impact 5.8-3: Substantial Degradation of the Existing Visual Character or Quality of the Site and its Surroundings. *The redevelopment of Camp Wawona would involve the removal of mature vegetation and the construction of new buildings and other structures. The forested, undeveloped 18-acre parcel of National Park Service land proposed for exchange would be altered, with the introduction of new linear elements and new colors into the existing natural environment. Adherence to development standards, including vegetative screening, use of appropriate colors for exterior painting, and lighting standards, would be required during redevelopment of the camp. Impacts to the existing visual character or quality of the site would be less than significant with mitigation incorporated.*

CEQA Significance: *Less than significant with mitigation incorporated*
NEPA Significance: *N/A (this is a CEQA-only consideration)*
Context of Impact: *N/A*
Duration of Impact: *N/A*
Intensity of Impact: *N/A*
Type of Impact: *N/A*

The existing National Park Service parcel proposed for exchange to the Seventh-day Adventists and subsequent camp redevelopment is a heavily forested, undeveloped site along Forest Drive (Figure 5.8-2). The proposed action would require the removal of mature trees prior to the construction of new facilities. The removal of these trees would alter the visual character of the site and surrounding area, and new camp facilities would introduce linear structures and colors into the existing natural environment. The addition of these structures would create dimensional vertical and horizontal lines and alter the visual character of the area. In addition, several nearby residences would have views of the proposed action site.

Construction of the proposed action and reclamation of the existing site would alter the visual character and quality of the site. Construction activities would occur during daytime hours and would be visible to hikers on the trails to Mariposa Grove and to Chilnualna Falls.

■ **Mitigation Measure 5.8-3: Use Previously Disturbed Areas for Staging Areas.**

- Minimize development footprints by placing staging areas in previously disturbed areas and away from sensitive receptors (i.e., residences along Forest Drive).
- The maximum building coverage would be limited to 10 % of the site. Lot coverage is defined as the area of the lot covered by buildings or other enclosed structures.

■ **Mitigation Measure 5.8-4: Use Visually Compatible Building Materials and Colors.**

- Building materials that are visually compatible or do not compete with the landscape would be used. All buildings would be painted using colors compatible with the natural environment (e.g., brown, forest green). Preferable building colors would be two shades darker than the natural environment.

■ **Mitigation Measure 5.8-5: Use Non-Reflective Surfaces.**

- All roofing and fencing would have non-reflective surfaces.

■ **Mitigation Measure 5.8-6: Provide Vegetative Screening or Buffer to Screen Facilities, Where Applicable.**

- Vegetative screening for camp buildings would be provided, where applicable, with retention of the existing forest landscape to be used as screening whenever possible.



KOP 1 – Parking lot near Swinging Bridge to Chilnualna Falls Trailhead



KOP 2 - Merced River

Source: EDAW 2003

Key Observation Point Photographs

FIGURE 5.8-2

A visual buffer would be provided along the south side of Forest Drive. This buffer would aid in screening the facilities from this public road. In addition, an undeveloped corridor 50-feet-wide would be preserved on the west side of the project boundary to provide a buffer between the facilities and the closest private residences.

- No building would be constructed higher than 35 feet above the average ground level, or no greater than two stories, unless approved as to compliance with the fire safety regulations of the agency providing structural fire protection service in the area. No accessory structure would exceed 20 feet in height from the average ground level.

■ **Mitigation Measure 5.8-7: Restrict Water Tank Height and Color.**

- All water tanks would be no more than 35 feet above the average ground level and would be painted forest green to blend in with the natural environment. These tanks would be placed away from sensitive viewsheds (i.e., closest residences).

■ **Mitigation Measure 5.8-8: Linear Infrastructure Should be Placed to Blend With the Natural Environment.**

- Installation of linear infrastructure (e.g., power lines) would not entail clearing of forested corridors. Electric transmission facilities and telephone poles would be placed above-ground to avoid clearing corridors and disturbing native soil. Utility poles would be brown in color and would be placed in a manner to blend with the natural environment, to the extent practical.
- Grading would be confined primarily to areas sloped at 20% or less. If grading activities are necessary within areas sloped at 20% or greater, an erosion control plan shall be prepared identifying appropriate erosion control measures (see Section 5.6).

Summary of CEQA Analysis

With implementation of the project according to its development standards and mitigation measures (including vegetative screening), vegetative management, and lighting standards described above, impacts to the existing visual character and quality would be less than significant with mitigation incorporated.

Impact 5.8-4: New Source of Substantial Light or Glare which would Adversely Affect Day or Nighttime Views in the Area. *The redevelopment of Camp Wawona would involve the construction of new facilities that could cause glare, and would involve the installation and use of new outdoor lighting. The camp is located close to Forest Drive, and two private residences are nearby. Adherence to development standards and mitigation measures, including vegetative screening, use of*

appropriate colors for exterior painting, and lighting standards, would be required during redevelopment of the camp and to reduce impacts to less than significant levels with mitigation.

CEQA Significance: *Less than significant*

NEPA Significance: *N/A (this is a CEQA-only consideration)*

Context of Impact: *N/A*

Duration of Impact: *N/A*

Intensity of Impact: *N/A*

Type of Impact: *N/A*

The proposed action would require the construction of new facilities. These facilities would be located along Forest Drive and in close proximity to two nearby private residences. The new facilities would require outdoor lighting that could adversely affect day or nighttime views in the Wawona area because of the close proximity to residents and trail users.

■ **Mitigation Measure 5.8-9: Shield and Direct Lighting.**

- All lighting should be shielded and point downward to avoid day or nighttime glare.

Summary of CEQA Analysis

With implementation of the project according to its development standards and mitigation measures, vegetative management, and lighting standards (including Dark Sky standards), the impact from light and glare associated with the proposed action would be less than significant.

NEPA/National Park Service Analysis

The visual resource analysis for NEPA/National Park Service compliance is based on project-related impacts that could be seen from the five KOPs, noted below. The location of these KOPs is shown in Figure 5.8-1. A summary of the NEPA/National Park Service impacts relative to KOPs 1 through 5 is presented in Table 5.8-1, followed by a detailed analysis for each KOP.

Table 5.8-1
Summary of Impact Analysis for the Proposed action

KOP	Duration of Impact	Intensity of Impact	Type of Impact
1	Short term during construction; long term following construction	Minor	Adverse
2	Short term during construction; long term following construction	Negligible	Neutral
3	Short term during construction; long term following construction	Moderate	Adverse
4	Short term during construction; long term following construction	Negligible	Neutral
5	Short term during construction; long term following construction	Moderate	Beneficial

Source: EDAW 2003

Impact 5.8-5: Views from KOP 1 – Parking Lot near Swinging Bridge to Chilnualna Falls

Trailhead. *The northeastern extent of Camp Wawona is currently visible from this location, although views are obstructed by mature vegetation. The trailhead is also at a lower elevation than the camp, reducing the visibility of the camp structures. Views from the trailhead are temporary in nature, since the area is used by recreationalists, rather than permanent residents. The redeveloped facilities at Camp Wawona would be barely perceivable, and would only be noticeable briefly while entering and exiting the parking lot. Construction activities in proximity to Forest Drive would be more evident by people driving to and from the trailhead.*

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local (foreground and middleground views)*

Duration of Impact: *Short-term (construction); Long-term (permanent facilities)*

Intensity of Impact: *Minor*

Type of Impact: *Adverse*

KOP 1 is located in the parking lot for the Chilnualna Falls Trailhead, which is located on National Park Service land to the slightly downhill and northeast of the entrance to Camp Wawona. Figure 5.8-2 depicts the view looking southwest from the parking lot toward Camp Wawona. The area seen from KOP 1 is located near the northeast corner of the existing camp. The parking area resides at a lower elevation than the camp and is generally screened by heavily forested land.

Duration of Impact

Impacts of the proposed action as seen from this KOP during construction would be short term. Long-term views of the redeveloped camp would also be visible from this location. Views from the trailhead are temporary in nature due to the casual, recreational use of this area.

Intensity of Impact

Impacts on the adjacent scenery would be minor. The proposed action site is screened from KOP 1 by existing tree canopy. The Chilnualna Falls Trailhead has a moderate amount of recreational activity. The parking lot is surrounded by tall trees and vegetation and makes visibility of the proposed action site limited.

Type of Impact

Visual impacts would result from changes in the middle ground view. These views would be barely perceivable and would only be noticeable as you enter and exit the parking lot. The minor change would be adverse.

Impact 5.8-6: Views from KOP 2 – South Fork Merced River. *Camp Wawona is not visible from the South Fork Merced River, which is more than 500 feet away and at a lower elevation. The mature riparian vegetation between the river and Forest Drive, combined with the embankment that defines*

the river margin, preclude views of the buildings at Camp Wawona. The redeveloped facilities at Camp Wawona would not be perceivable.

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local*

Duration of Impact: *Short-term (construction,; Long-term (new facilities)*

Intensity of Impact: *Negligible*

Type of Impact: *Neutral*

KOP 2 is located along the South Fork Merced River, as shown in Figure 5.8-1. It is approximately 0.25 mile north of the proposed action site. Figure 5.8-3 depicts the view from the river embankment looking south toward the proposed action site. This portion of the South Fork Merced River is classified as recreational in the *Merced River Plan*. The undeveloped, heavily forested land between the river and the proposed action site, combined with the lower elevation of the river corridor, serves as a visual buffer that precludes views of Camp Wawona.

Duration of Impact

Construction-related impacts, expected to occur over a 10-year period, would be short term. The long-term change in visual character as a result of new development would not be visible from this location; however, night lighting may be visible. Views of the project area from KOP 2 along the South Fork Merced River would be short-term, associated with recreational uses along the river corridor.

Intensity of Impact

Visual impacts as seen from the South Fork Merced River are negligible. The river is at a lower elevation than the proposed action site, and steep embankments and existing tree canopy block views of the site from KOP 2.

Type of Impact

The negligible, short-term impacts as seen from KOP 2 are considered neutral.

Impact 5.8-7: Views from KOP 3 – Residence along Forest Drive. *A private residence along Forest Drive, located several hundred feet west of the proposed redevelopment area, would have an immediate view of the new camp facilities. Some of the existing vegetation on the 18-acre National Park Service would be removed to facilitate construction of new structures, which would introduce linear elements and color variations to the existing visual environment. These changes would be visible from the residence on a long-term basis. Adherence to development standards, including vegetative screening along Forest Drive, the use of appropriate colors for exterior painting, and lighting standards, would be required during redevelopment of the camp.*



KOP 3 – Residence along Forest Drive



KOP 4 – Residences along Bluffs

Source: EDAW 2003

Key Observation Point Photographs

FIGURE 5.8-3

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local (foreground views)*

Duration of Impact: *Short-term (construction, Long-term (new facilities)*

Intensity of Impact: *Moderate*

Type of Impact: *Adverse*

KOP 3 is located at a private residence, west of and several hundred feet from the proposed action site. This residence is located at 8039 Forest Drive. There are several other residences located along Forest Drive; however, only one has an immediate view of Camp Wawona. Residences along Forest Drive consist of permanent and seasonal housing. Figure 5.8-3 shows the view from this residence, facing east-southeast along Forest Drive toward the proposed action site. The area is heavily forested, and a low ridge separates this residence from the camp.

Duration of Impact

Impacts from the redevelopment of Camp Wawona as seen from this residence would be short term, as they relate to construction activities, and long term as a result of new developments that could be seen from this location. The introduction of new facilities would introduce linear and dimensional lines to the area. In addition, additional color variations would be introduced into the environment. The expansion would remove trees and vegetation and would place the facilities in closer proximity to adjacent residences, thereby increasing visibility of the proposed action.

Intensity of Impact

With incorporation of the development standards and lighting standards described above, impacts from the proposed action would create moderate impacts to the visual character of the area as seen from KOP 3.

Type of Impact

Impacts from the proposed action as seen from KOP 3 would be adverse. The majority of the trees and vegetation would be removed from the currently undeveloped National Park Service lands and new facilities would be constructed. These facilities would be located in closer proximity to residences, thereby increasing visibility. Although immediate visibility will be evident from KOP 3, measures would be incorporated into the project design to reduce this impact.

Impact 5.8-8: Views from KOP 4 – Residences Along Bluffs. *Several residences are located on the north side of the South Fork Merced River, and have a view across the river to the south. Because of vegetative screening provided by the trees between the South Fork Merced River and Forest Drive, and the distance involved, Camp Wawona is not visible from these residences. The new facilities proposed for the redevelopment of Camp Wawona would not be perceivable from this location, but light*

emanating from the camp during nighttime hours could be visible. Adherence to the lighting standards incorporated in the development standards would be required.

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Regional (background views)*

Duration of Impact: *Long-term (permanent facilities)*

Intensity of Impact: *Negligible*

Type of Impact: *Neutral*

KOP 4 is located along the bluffs on Loop Road, north of Camp Wawona and the South Fork Merced River (see Figure 5.8-1). Figure 5.8-4 depicts the view from this location looking southeast across the river toward the proposed action site. There are several scattered residences located along these bluffs. These residences have views of the South Fork Merced River, but they do not have views of the proposed action site due to distance, topography, and vegetative screening. Camp lighting may be visible from this location, therefore lighting standards and mitigation measures will reduce this impact.

Duration of Impact

Impacts from redevelopment of Camp Wawona from these residences would be long term due to the residential uses and night lighting. Construction-related impacts would be short term, while permanent changes to the visual setting of Camp Wawona would be long term.

Intensity of Impact

Impacts from the proposed action during the day would be negligible from this location. The proposed action site is not visible due to topography and existing vegetation. Nighttime views could be affected by outdoor lighting.

Type of Impact

The negligible visual impacts from KOP 4 are considered neutral.

Impact 5.8-9: KOP 5 -Trail from Mariposa Grove to Camp Wawona. The trail from Mariposa Grove to Camp Wawona is used by trail users. The land exchange would require the removal of existing facilities and for the land to be recontoured, revegetated, and returned to a native condition.

CEQA Significance: *Less than significant*

NEPA Significance: *Less than significant*

Context of Impact: *Local (foreground views)*

Duration of Impact: *Short-term (construction), Long-term (new facilities)*

Intensity of Impact: *Moderate*

Type of Impact: *Beneficial*



KOP 5 – Trail from Camp Wawona to Mariposa Grove

Source: EDAW 2003

Key Observation Point Photograph

FIGURE 5.8-4

KOP 5 is located at the trailhead from Camp Wawona to Mariposa Grove, near the southeast boundary of the proposed action site (see Figure 5.8-1). The proposed action site is located northwest and downhill of the trail. There are views of existing camp buildings and the pool area from KOP 5, as seen in Figure 5.8-4.

Duration of Impact

Impacts from proposed action activities would be short term in regard to construction activities, and long term following restoration and redevelopment of the camp. Due to the casual, recreational use of the trail, views by visitors are generally short term in nature.

Intensity of Impact

Visual impacts from KOP 5 following implementation of the proposed action would be moderate. Existing facilities near the trailhead would be removed and the land to be exchanged to the National Park Service would be re-contoured, revegetated, and returned to a native condition.

Type of Impact

Impacts from the proposed action as seen from KOP 5 would be beneficial, as existing developments would be removed and located further to the north, and the land would be restored to a natural condition.

Summary of NEPA/National Park Service Analysis

The type of visual impacts from KOPs 1 and 3 are adverse, but are minor as seen from KOP 1. The intensity of the impact from KOP 3, a nearby residence, is moderate and long term, but would be mitigated through implementation of the development standards and/or mitigation measures, vegetative management, and lighting standards described above. The intensity of the negligible impacts from KOPs 2 and 4, where views of the proposed action are obstructed by landforms and vegetation, are considered neutral.

The visual change from KOP 5, a trailhead near the southeastern corner of Camp Wawona, would be beneficial and moderate due to the removal of existing facilities in proximity to this KOP, and subsequent restoration of the land to be exchanged to the National Park Service.

Cumulative Impacts

The only other known development project in proximity to Camp Wawona is the potential development of housing for National Park Service employees along Forest Drive, west of the proposed action. If this development were to occur in proximity to KOP 3, the private residence described above, the cumulative impact could be significant under CEQA and NEPA. No significant cumulative impacts relative to the other KOPs would occur.

Impairment

There would be no impairment of park resources and values related to scenic resources. The beneficial change in the view as seen from the trail from Camp Wawona to Mariposa Grove would be a major change to the foreground views from this location within the Yosemite Wilderness Area. A visual buffer would be created and views of camp facilities would be screened.

IMPACTS FROM PROJECT ALTERNATIVES

No Project Alternative

The No Project Alternative requires the removal of existing encroachments of Camp Wawona (i.e., the removal of three buildings, a portion of the Campfire Bowl area, the eastern end of the main entrance road, and a segment of the paved road to the south). All disturbed land would be restored to a native condition.

The removal of the existing encroachments would remove facilities from the existing environment and would be a beneficial visual impact as seen in the foreground and middleground from KOP 1 and from the undeveloped lands within the Yosemite Wilderness Area.

The views of the No Project Alternative from KOPs 2, 3, and 4 are negligible as the encroaching facilities are not visible from these places. The foreground view from KOP 5 would be improved, but this beneficial impact would be negligible, because removal of the existing facilities in close proximity to KOP 5 would not occur under the No Project Alternative.

No Land Exchange Alternative

The No Land Exchange Alternative requires the removal of existing encroachments of Camp Wawona and restoration of the disturbed land to a native condition. Redevelopment of the camp facilities on the 30.45 acres of current Seventh-day Adventist lands could occur under this alternative.

The CEQA impacts are the same as those described for the proposed action, with the exception that the alteration of existing, undeveloped lands owned by the National Park Service under the proposed action would not occur. Consequently, the impacts considered under CEQA would be slightly reduced relative to the proposed action.

The change in the views of Camp Wawona under the No Land Exchange Alternative, as seen from KOPs 1, 2, 3, and 4 would be minor or negligible, since any redevelopment would occur further from these KOPs under this alternative. Views from KOP 5 would not be improved under this alternative, and could be adverse if new, more intrusive camp developments were placed in closer proximity to this viewpoint.

Reduced Land Exchange Alternative

The Reduced Land Exchange Alternative is similar to the proposed action/action; however, this alternative would involve only 8.5 acres of existing Seventh-day Adventist land that would be exchanged to the National Park Service for 10 acres of current National Park Service property.

The impacts assessed under CEQA would be nearly the same as the proposed action, but would involve slightly less disturbance to the forested lands currently under National Park Service ownership.

Visual impacts as seen from KOPs 1, 2, and 4 for the Reduced Land Exchange Alternative would be the same as for the proposed action. The visual impact on KOP 3, the private residence along Forest Drive, would be less severe due to the increased distance and vegetative screening between this home and the camp redevelopments under this alternative. The beneficial visual impact as seen from KOP 5 would still occur as a result of the abandonment and restoration of facilities adjacent to the Yosemite Wilderness Area, but redevelopment actions on current Seventh-day Adventist land could be located closer to this KOP than under the proposed action.

Minimal Land Exchange Alternative

The Minimal Land Exchange Alternative is similar to the Reduced Land Exchange Alternative. This alternative would involve 5.6 acres of existing Seventh-day Adventist land that would be exchanged to the National Park Service for 6.6 acres of current National Park Service property.

Visual impacts under the Minimal Land Exchange Alternative would be comparable to the proposed action, but less undeveloped land currently in National Park Service ownership would be affected. Because redevelopment of the camp would be located slightly further to the east than under the proposed action or Reduced Land Exchange Alternative, the change in views as seen from KOP 3 would be less noticeable (negligible, rather than moderate). The change in view as seen from KOP 5 would still be beneficial, but would be of minor intensity, rather than moderate (as under the proposed action) because new camp developments could be located closer to the southern boundary of the private property.

The negligible change in views from KOPs 1, 2, and 4, as described for the proposed action, would remain essentially the same.

SUMMARY OF MITIGATION MEASURES

- **MM 5.8-1:** No mitigation measure is necessary.
- **MM 5.8-2:** No mitigation measure is necessary.
- **MM 5.8-3:** Use previously disturbed areas for staging areas.

- **MM 5.8-4:** Use visually compatible building materials and colors.
- **MM 5.8-5:** Use non-reflective surfaces.
- **MM 5.8-6:** Provide vegetative screening or buffer to screen facilities, where applicable.
- **MM 5.8-7:** Restrict water tank height and color.
- **MM 5.8-8:** Linear infrastructure should be placed to blend with the natural environment.
- **MM 5.8-9:** Shield and direct lighting.

5.9 TRAFFIC AND TRANSPORTATION

5.9.1 IMPACT METHODOLOGY AND ASSUMPTIONS

The effects of the proposed action and project alternatives on traffic and transportation were analyzed using guidelines prepared for both CEQA and NEPA analysis, including relevant National Park Service guidance, as described below. Assumptions critical to the impact analysis are also described in this section.

CEQA THRESHOLDS

The CEQA significance criteria are based on Appendix G of the CEQA Guidelines. According to these guidelines, impacts of a project to traffic and transportation issues are considered significant if they would:

- ▶ cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- ▶ exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
- ▶ result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- ▶ substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- ▶ result in inadequate emergency access;
- ▶ result in inadequate parking capacity; or
- ▶ conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Because there are no local air traffic patterns that are relevant to the project, adequate parking would be included in the proposed action, and because there is no conflict with adopted alternative transportation plans, these issues will not be further addressed in this section.

As noted in Section 4.9, in the draft General Plan Update, Circulation Element, County of Mariposa (2003a) is proposing to adopt new guidelines for evaluating traffic conditions on low volume rural roads such as Forest Drive. These guidelines generally focus on daily traffic volume thresholds that would necessitate specific roadway widths and surface treatments. These roadway standards are intended to provide traffic flow conditions that are commensurate with the expectations of County residents (see Table 4.9-2). While not formally adopted by the County, these thresholds are considered in the following analysis for informational purposes.

NEPA/NATIONAL PARK SERVICE THRESHOLDS

There are no specific NEPA or National Park Service thresholds for assessing impacts to traffic, so the nationally recognized Level of Service standards, as described in the “2000 Highway Capacity Manual” (HCM) were used in this analysis (see Table 4.9-1).

Context of Impact

For the purposes of this assessment, the context of the impact considers whether the impact would be local or regional. Only local traffic and transportation impacts are relevant to Camp Wawona, due to the relatively small percentage of regional traffic volumes represented by the camp, and the generally adequate capacity of regional roads such as SR 41. These local impacts extend from the Wawona Road/Forest Drive intersection on the west to the camp property.

Duration of Impact

The duration of the impact considers whether the impact would occur in the short term or over the long term. Short-term impacts refer to those that would occur on a temporary, intermittent basis, such as during construction. A period of one (1) year is a common threshold used to distinguish a short-term impact from a long-term or permanent impact, which would be relevant to future use and operation of Camp Wawona.

Intensity of Impact

The intensity of the impact considers whether the impact would be negligible, minor, moderate, or major. Negligible impacts would be imperceptible, not detectable by normal analytical methods, or would have no discernible effect on the local traffic environment. Minor impacts would be slightly perceptible and/or affect substantially less than the majority of the area or population, without the potential to expand into more significant impacts if left alone or not mitigated. Moderate impacts would be perceptible, and affect a moderate amount of the local populations. Major impacts would be highly noticeable, may be permanent, or could increase in severity if left alone. Major adverse impacts are also defined as those effects that would occur to a majority of the area or population in question.

Type of Impact

Impacts were evaluated in terms of whether they would be beneficial or adverse to the traffic environment. The focus of the impact analysis is for potential adverse impacts related to the proposed action. Beneficial impacts are generally considered to be effects that would improve traffic flow, traffic operations, or public safety related to traffic issues.

ASSUMPTIONS

The analysis of impacts to traffic and transportation resources was based on the following assumptions regarding characteristics of the proposed action.

Project Characteristics

The proposed action would not substantially change the characteristics of the existing Camp Wawona operation during the summer months, but it is expected that redevelopment of the camp would attract additional visitors to the camp during the off-peak season. Thus, major changes to current peak summer traffic volumes are not anticipated, but an overall increase in the annual volume of traffic on Forest Drive would be expected to occur.

Trip Generation–Existing Operations

To quantify the amount of vehicular traffic generated by implementation of the proposed action, the amount of traffic already generated by existing operations at Camp Wawona was estimated on both a peak day and average day condition. During a peak summer week under current conditions, there may be as many as 250 student campers and 80 volunteers at the camp (330 persons total). During the rest of the year, there are an estimated 100 to 200 persons at the camp on a weekend and fewer than 100 persons during the week. There are no conditional constraints to occupancy of the current camp, so the number of transient visitors is limited by decisions by the Seventh-day Adventists, the total number of transient beds (currently 338), and the attractiveness of the camp to potential visitors during the fall, winter, and spring.

Daily Traffic

The volume of traffic attracted to Camp Wawona was derived from review of the traffic volume counts conducted on Forest Drive at locations east and west of the camp in July of 2003. As noted in Table 5.9-1, the difference between the volume of traffic reported west and east of the camp is about 116 vehicle trip ends per day on the peak day and 94 trip ends on the average summer day. Assuming that the level of camp activity during the “off-peak” season is proportional to the difference in observed traffic counts, the average annual daily traffic (AADT) contribution to Forest Drive as a result of existing camp activities is approximately 45 AADT as shown in Table 5.9-2.

Table 5.9-1
Sunday Peak-Hour Traffic in the Summer

Date	Time	Hourly traffic volume on Forest Drive		
		1	2	3
		East of Koon Hollar	East of Camp Wawona	Difference Between 1 and 2
July 21, 2003	12:00 p.m.	57	51	6
July 28, 2003	1:00 p.m.	62	48	14
Source: kdAnderson 2003				

**Table 5.9-2
Forest Drive Traffic Volume Summary**

Time Period	Trip Generation		
	Existing	% Increase	New Trips
Peak Summer Day	116 ADT	20%	24
Summer Average Day	94 ADT	20%	19
Off-Season Average	30 ADT	67%	24
Estimated Annual Average Daily Traffic	45 AADT	105%	23
Summer Peak Hour	20 VPH	20%	4
Source: kdAnderson 2003			

Peak Hour Traffic

In the summer, the highest traffic volumes on Forest Drive were observed at midday on Sunday. At this time the existing camp generates its peak traffic during the early afternoon, when parents and campers travel to and from the camp to drop off and pick up in relation to the Sunday start and stop of the week-long summer camps.

Comparison of the peak hourly volume west and east of the camp revealed the information presented in Table 5.9-1. As shown, about 60 vehicles per hour were observed on Forest Drive between Koon Hollar Road and the camp. The volume just east of the camp, which provides access to a National Park Service trailhead, was about 50 vehicles per hour, and as shown, the difference between these two points (presumably the traffic going to Camp Wawona) ranges from about 6 to 14 vehicles per hour. While this difference may be attributed to camp traffic, it is also possible that during that peak period, a portion of the traffic counted east of the camp was parent vehicles that stopped in the area just beyond the camp to park. However, this is not expected to be a substantial number.

Based on this information, the estimated highest volume hour of summer Sunday traffic the camp generates is expected to be no more than 28 automobile trips (i.e., 14 in-bound and 14 out-bound).

Buses

Visitors to Camp Wawona occasionally travel by charter bus, although the number of buses is low (i.e., no more than two buses going round trip per weekend). However, it is possible that with increased camp use under the proposed action, additional buses could be used.

Trip Generation – Proposed Action

Implementation of the proposed action is not intended to substantially increase the capacity of the camp. Thus, it is not expected that the proposed action would substantially increase the volume of traffic on study area roads on peak summer days. However, it is expected that additional visitors would make use of the facility during other seasons when the camp is currently underutilized. Increased occupancy during the off-peak season may increase the overall volume of traffic on study area roads on an Annual Average Daily Traffic basis.

Because precise information is not available regarding the total number of current visitors to Camp Wawona on an annual basis, this impact assessment is based on general assumptions regarding the change in use that would occur and has equated these changes to trip generation based on the observations of existing traffic. On a peak week it has been assumed that implementation of the proposed redevelopment could result in a 20% increase in the total occupancy (i.e., increase from 330 persons to 400 persons). During the off-season, it has been assumed that weekend attendance that today ranges from 100 to 200 persons could increase to 250. This would represent a 67% increase over the mid-point of the range. Similarly, during an off-season mid-week it has been assumed that the current occupancy could increase by 67% (i.e., from less than 100 to 150 persons).

While all of these assumptions are independent of any specific forecast for site utilization by the project applicant, they provide a reasonable estimate of traffic volume increases for use in evaluating the magnitude of traffic impacts.

Table 5.9-2 presents the estimate of trip generation associated with project implementation under these assumptions. As shown, traffic on Forest Drive would increase by about 20 ADT during each period, with annual average daily traffic increasing by 23 AADT. During the peak hour on Sunday, another 4 trips would be generated under the assumptions used for the proposed action.

5.9.2 IMPACT ANALYSIS

Because the consideration of some traffic impacts is different under CEQA and local standards, relative to the NEPA and nationally recognized Levels of Service standards, the first portion of the impact analysis addresses state/local and federal guidelines separately. Other aspects of transportation analysis are common to CEQA/local and NEPA/National Park Service concerns, and are addressed jointly. The impacts associated with the proposed action are described first, as are mitigation measures that would avoid or reduce significant adverse impacts. Following the discussion of each potential impact, summary statements specific to both CEQA and NEPA/National Park Service standards are provided.

The discussion of the proposed action is followed by a description of impacts associated with the project alternatives. Any substantial differences between impacts associated with the alternatives, as compared to the proposed action, are described. If impacts are generally comparable to the proposed action, this conclusion is briefly stated

Impact 5.9-1: Impacts to Traffic on Forest Drive. The redevelopment of Camp Wawona would increase the number of visitors using the camp, primarily during the off-peak period (i.e., from late summer to late spring). This additional use would increase the number of vehicle trips on Forest Drive, but not above the average annual daily traffic volume of 300 ADT proposed as a County threshold between Service Level 5 and Service Level 6 on low-volume rural roads. The increase in traffic would not be substantial in relation to existing traffic loads or the capacity of Forest Drive, and would not exceed a level of service standard for the Forest Drive/Wawona Road intersection. Due to the narrow paved width of Forest Drive in some areas, the use of buses to transport campers to and from the camp results in situations where cars must pull onto dirt areas on the side of the road, or back up to find a place to allow the bus to safely pass. While there is no record of accidents involving camp buses and automobiles on Forest Drive, operational and safety concerns exist.

CEQA Significance: *Less than significant with mitigation incorporated*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Local*

Duration of Impact: *Long-term (operational)*

Intensity of Impact: *Minor*

Type of Impact: *Adverse*

“Existing Plus Project” traffic volumes were tabulated assuming that project-related traffic uses Forest Drive west of the camp, as indicated in Table 5.9-3. The resulting annual average daily traffic volumes do not approach the 300 ADT threshold proposed by Mariposa County to differentiate between Service Level 5 and Service Level 6 (County of Mariposa 2003a). The increase in traffic would not be substantial in relation to existing traffic loads or the capacity of the street system, nor would this additional traffic exceed a level of service standard for an intersection (see Impact 5.9-2). Thus, the additional project-related traffic resulting from proposed action does not have a significant impact with regard to CEQA or Mariposa County standards. However, operational issues related to Forest Drive are affected by buses that transport campers to and from Camp Wawona. A small number of additional buses could use Forest Drive each week, primarily during the off season, although the precise number is not predictable. Because of the narrow width of Forest Drive, cars and buses may not be able to pass each other in certain areas. Recognizing the effects if this increase in traffic (including additional buses), this operational issue results in a potentially significant traffic safety impact that requires mitigation.

■ **Mitigation Measure 5.9-1: Manage Bus Traffic on Forest Drive**

Buses entering and leaving Camp Wawona would be accompanied by a pilot car that would precede each bus using Forest Drive. The car would be in contact with the bus by radio, would inform the bus driver of the status of opposing traffic, and would inform approaching motorists of a following bus and direct them to a safe location to wait until the bus passes.

■ **Mitigation Measure 5.9-2: Pave Existing Pull-outs Along Forest Drive**

Paved pull-outs would be constructed at locations where informal pullouts exist in proximity to areas of limited sight distance. Paving existing dirt or graveled pull-outs that are currently used by motorists would help mitigate for the bus/automobile interactions. Creation of expanded or new pull-outs would not be feasible, because elimination of large trees, excavation of side slopes, or realignment of the road would be needed. These more intrusive measures are not considered feasible.

Table 5.9-3
Existing Plus Project Forest Drive Traffic Volume Summary

Condition	Location								
	1			2			3		
	West of Koon Hollar Rd to Dumping Station (Vehicles per day)			East of Koon Hollar Road to Camp Wawona (Vehicles per day)			East of Camp Wawona (Vehicles per day)		
	Existing	Project Only	Existing Plus Project	Existing	Project Only	Existing Plus Project	Existing	Project Only	Existing Plus Project
Summer Peak Day	468	24	492	360	24	384	244	2	246
Summer Average	346	19	365	225	19	244	131	2	133
Annual Average Daily Traffic	160	23	183	105	23	128	60	2	62
Significant With Regard to Mariposa County Service Levels?	no			no			no		

NEPA/NATIONAL PARK SERVICE ANALYSIS

Impact 5.9-2: Impacts to Intersection Levels of Service. *The redevelopment of Camp Wawona would increase the number of visitors using the camp, primarily during the off-peak period (i.e., from late summer to late spring). This additional use would increase the number of vehicle trips on Forest Drive, but would not exceed the existing Level of Service (LOS) B standard for the Forest Drive/Wawona Road intersection.*

CEQA Significance: Less than significant

NEPA Significance: Less than significant

Context of Impact: Local

Duration of Impact: Long-term (operational)

Intensity of Impact: Negligible

Type of Impact: Adverse

The extent to which the additional peak hour traffic associated with implementation of the proposed action impacts the Wawona Road/Forest Drive intersection was based on the

assumptions provided above. Table 5.9-4 compares existing and “existing plus project” conditions and reveals that the current LOS B at this intersection would remain with and without the project. This is a local, long-term, but negligible adverse impact.

**Table 5.9-4
Existing Summer Sunday Intersection Levels of Service**

Intersection	Control	12:00 – 2:00 PM Peak Hour			
		Existing		Existing Plus Project	
		Average Delay (seconds)	LOS	Average Delay (seconds)	LOS
Wawona Road/Forest Drive					
(Overall)	EB/WB	(12.3 sec)	(B)	(12.4 sec)	(B)
Northbound left turn	Stop	7.7 sec		7.7 sec	
Southbound left turn		7.9 sec		7.9 sec	
Eastbound Forest Dr Approach		10.4 sec		10.5 sec	
Westbound Forest Drive Approach		14.2 sec		14.3 sec	
Source: kdAnderson 2003					

COMBINED CEQA/LOCAL AND NEPA/NATIONAL PARK SERVICE ANALYSIS

Impact. 5.9-3: Impacts to Non-Automotive Circulation.

The implementation of the proposed action would incrementally increase demand for the area’s non-automotive transportation facilities.

Pedestrian and Bicycle Activity

If the project were completed, some pedestrian and bicycle activity would continue to occur between the camp and other Wawona areas. However, it is not expected that the number of camp visitors hiking or cycling in this area would be appreciably greater than that already occurring at the camp on a peak summer day. Thus, increased pedestrian and bicycling activities are considered to be negligible and a less-than-significant impact. No mitigation is required.

Implementation of the proposed action would incrementally increase the volume of traffic in the area of the two existing pedestrian crossings on Forest Drive. This additional traffic would incrementally increase conflicts between pedestrians and automobile traffic. While a significant increase in accidents would not be expected, this is not considered a significant impact, and no mitigation is required. However, it might be desirable to modify the two existing crossings to further attract the attention of approaching motorists. Standard “urban” measures such as flashing beacons and/or in pavement lighting would not be appropriate given the community character of Wawona. Rather, installation of a pavement treatment in the crosswalk area that would have a texture and color that differs from the asphalt pavement, but is consistent with the rural character of the Wawona area, could be used.

Transit Services

Implementation of the proposed action may occasionally create demand for transit services to the South Yosemite area. However, it is unlikely that development of this project would by itself create the need to expand existing services or modify existing routes. This is considered a negligible, less-than-significant impact. No mitigation is required.

The proposed action would result in more frequent use of charter buses to access the site. While the number of additional buses is unlikely to be significant from the standpoint of road capacity and level of service, additional bus traffic may inconvenience other motorists using Wawona Road more frequently, but there are no substantial road capacity or intersection performance impacts. This is a less-than-significant impact, and no mitigation is required.

Safety

The relative impact of project traffic on Forest Drive has also been assessed from the standpoint of operational safety. Two issues have been considered. First, increased traffic incrementally results in additional accidents at locations where safety issues already occur, and additional conflicts might be created at locations where current design standards can not be met. Secondly, the extent to which increased use of charter buses may also increase conflicts with other motorists has been assessed. To the extent that increased conflicts between buses and cars would occur under adverse weather conditions. This concern would be increased.

The expansion of camp utilization could result in the use of additional buses on Forest Drive, particularly in the spring, winter, or fall. The probability of automobiles and buses meeting at locations where shoulders or pull-out areas are inadequate would therefore increase. Where sight distances are short and pull-outs are not available, motorists would be required to back up to a pull-out to avoid the bus. This could be considered a potentially significant impact to local residents. Two mitigation measures described above are considered to reduce this impact.

- **Mitigation Measure 5.9-1: Manage Bus Traffic on Forest Drive**
- **Mitigation Measure 5.9-2: Pave Existing Pull-outs Along Forest Drive**

Cumulative Impacts

The relative impacts of the proposed action were assessed within the context of future traffic conditions occurring under the Mariposa County General Plan Update and the Yosemite Valley Plan.

Background - Development

Two planning studies have addressed possible development in the Wawona area. The Yosemite Valley Plan – Supplemental Environmental Impact Statement (NPS 2000a) is a comprehensive document that presents and analyzes alternatives for managing resources in Yosemite Valley.

The preferred alternative could lead to the relocation of 174 apartment, studio or dormitory bed spaces from Yosemite Valley to Wawona, along with the development of 24 new bed spaces.

The Yosemite National Park – Parkwide Campground Planning Study (NPS 2002) evaluated several sites for expanded or new campgrounds, including the Wawona Section 35 site. The study findings did not support development of any new campgrounds along Forest Drive.

Based on these data, it is possible that the volume of traffic generated by land uses in the Wawona area would increase in the future, primarily as a result of development of new or relocated residences. However, it is difficult to use these data to evaluate how conditions on Forest Drive might be affected since the location of actual development within the Wawona area could be on either side of the South Fork Merced River. If the National Park Service were to construct employee housing on Forest Drive to the west of Camp Wawona, measures to safely accommodate total traffic would be necessary.

Review of the Mariposa County General Plan Update Circulation Element notes that development in excess of 35 residential dwelling units is the trigger for development of a Service Level 5 road (i.e., 18 feet of pavement for > 300 ADT). Thus, if the National Park Service constructed 198 new employee beds along Forest Drive, portions of Forest Drive might carry traffic volumes in excess of this standard and necessitate roadway improvements.

Background – Traffic Volume History

The extent to which the volume of traffic on study area roads would increase in the future, regardless of local development, was assessed based on review of Caltrans' historic traffic volume records for SR 41 at the Yosemite National Park south entrance. Caltrans conducts traffic counts on most state highways on three year intervals, with intermediate data estimated from spot counts and/or interpolation. Data for the last 13 years is presented in Table 5.9-5. As shown, these data indicate that on an average annual basis, the volume of traffic entering the park has consistently been in the range of 2,000 to 3,000 vehicles per day since 1991. The most recent data collected in 2002 was in the low end of that range. However, the volume of traffic occurring during the highest volume month has varied within a range of about 4,000 to 6,000 vehicles per day. The most recent data collected in 2002 has been in the high end of that range.

Based on these data it is possible to reach two conclusions. First, on an average annual basis the volume of traffic on Wawona Road is not likely to be significantly greater than that occurring today, since the historic trend does not suggest regularly increasing traffic volumes. On a peak month basis, the volume of traffic has been increasing, especially in the period from 1998 to 2002. However, the most recent short-term volume changes may be a poor indication of future traffic volume growth on Wawona Road, since the overall level of Yosemite National Park amenities is unlikely to increase in the future, and measures to promote use of alternative transportation modes are likely to be successful. Thus, it is unlikely that an appreciable cumulative impact would occur at the Wawona Road/Forest Drive intersection.

Table 5.9-5
Historic Traffic Volumes on SR 41 at South Entrance to Yosemite National Park

Year	Average Annual Daily Traffic	Peak Month Daily Traffic
1989	1,450	1,750
90	1,450	1,750
91	2,200	2,700
92	2,400	3,750
93	2,600	4,050
94	2,950	5,600
95	2,550	3,900
96	2,550	4,400
97	2,700	4,650
98	2,350	4,250
99	2,450	4,450
00	2,450	4,450
01	2,050	5,300
02	2,250	5,800

Source: Caltrans *Traffic Volumes on California State Highways*, 1989 – 2002

Impairment

If Forest Drive required expanded turnouts, the grading of slopes, removal of trees, and increase in paved area would require loss of resources, which would result in impairment to park resources and values.

Assuming no roadway improvements requiring the removal of mature trees, cutting, and grading would be implemented, there would be no impairment to park resources or values associated with traffic and transportation issues.

IMPACTS OF PROJECT ALTERNATIVES

Impacts to traffic and transportation issues related to the no project alternative and the three alternative land exchange proposals are described below. The detailed impact analysis described for the proposed action is referenced, as appropriate.

No Project Alternative

The No Project Alternative requires the removal of existing encroachments of Camp Wawona (i.e., the removal of three buildings, a portion of the Campfire Bowl area, the eastern end of the main entrance road, and a segment of the paved road to the south). All disturbed land would be restored to a native condition. Realignment of the main entrance would cause temporary, adverse impacts to the far eastern end of Forest Drive. Measures to maintain

public access to the trailhead to the east of the camp during construction would be implemented.

Because redevelopment of the camp would not occur under this scenario, traffic impacts associated with the expected increased usage assumed for the proposed action is unlikely to occur.

No Land Exchange Alternative

The No Land Exchange Alternative requires the removal of existing encroachments of Camp Wawona and the restoration of disturbed land to a native condition. Conforming future improvements on the Seventh-day Adventist property could be approved by the County and the National Park Service.

Assuming redevelopment of the camp on the existing 30.45-acre parcel of land owned by the Seventh-day Adventists, the No Land Exchange Alternative would have the potential to create impacts comparable to those described for the proposed action. Mitigation Measure 5.9-1 would be implemented under this scenario.

Reduced Land Exchange Alternative

The Reduced Land Exchange Alternative is similar to the proposed action/action; however, this alternative would involve only 8.5 acres of existing Seventh-day Adventist land that would be exchanged to the National Park Service for 10 acres of current National Park Service property. The potential traffic and transportation impacts associated with the Reduced Land Exchange Alternative would be essentially the same as those described for the proposed action. Mitigation Measure 5.9-1 would be implemented.

Minimal Land Exchange Alternative

The Minimal Land Exchange Alternative is similar to the Reduced Land Exchange Alternative. This alternative would involve the exchange of 5.6 acres of existing Seventh-day Adventist land to the National Park Service for 6.6 acres of current National Park Service property

Assuming redevelopment of the camp would be comparable to the proposed action – but more focused on currently developed property - the Minimal Land Exchange Alternative would result in the same impacts as described for the proposed action. Mitigation Measure 5.9-1 would be implemented.

SUMMARY OF MITIGATION MEASURES

- **MM 5.9-1:** Manage Bus Traffic on Forest Drive.
- **MM 5.9-2:** Pave Existing Pull-outs Along Forest Drive.

5.10 PUBLIC UTILITIES AND SERVICES

5.10.1 IMPACT METHODOLOGY AND ASSUMPTIONS

Effects of the proposed action and alternatives were analyzed using guidelines prepared for public utilities and services for both CEQA analysis and NEPA/National Park Service analysis, as described below.

CEQA THRESHOLDS

According to the Environmental Checklist from Appendix G of the CEQA Guidelines, a project may be deemed to have a significant public service and utility impact if it would:

- ▶ result in an unacceptable level of service ratios, response times or other performance objectives for fire protection and law enforcement services;
- ▶ have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- ▶ require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- ▶ require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

NEPA/NATIONAL PARK SERVICE THRESHOLDS

NEPA requires that federal agencies consider the effects of a project and determine if that project would “significantly affect the quality of the human environment.” Determining whether a proposed action would have a significant affect is evaluated by analyzing the context in which the project will occur and the intensity of the action. The National Park Service uses the NEPA criteria for significance thresholds and also considers the criteria of duration and type of impact when analyzing the effect of a project. However, NEPA/National Park Service guidance does not address impacts to public services and utilities.

5.10.2 IMPACT ASSESSMENT

The impact assessment discussion analyzes the project and its effects to public services and utilities as guided by the CEQA thresholds described above. The impacts of the proposed action, including cumulative impacts are discussed first. A comparative analysis for the alterations is then presented.

IMPACTS OF PROPOSED ACTION

CEQA Analysis

Camp Wawona has an adequate supply of water from on-site wells. The camp is connected to the community wastewater treatment system in Wawona. Current peak usage occurs during the month of July, when the camp releases approximately 250,000 gallons of wastewater (an average of approximately 8,100 gallons per day). According to the manager of the wastewater treatment plant, the facility has adequate capacity to handle the projected increased use of the camp, as long as the daily average discharge to the wastewater facility from Camp Wawona does not exceed 9,300 gallons per day (Wood pers. comm. 2003). These issues are not further discussed.

Impact 5.10-1: Increased Demand for Law Enforcement and Fire Protection Services.

Redevelopment of Camp Wawona would result in an increase in camp usage during off-peak periods (i.e., in times of the year before and after the 8-week summer camp period). This increase is not expected to require additional demand on law enforcement staff from the National Park Service or Mariposa County because the camp is managed by onsite professional staff and camp counselors. The additional use could increase the risk of fires starting within Camp Wawona, or onto undeveloped lands adjacent to the camp. Camp Wawona maintains fire suppression equipment and has an adequate water supply to respond to accidental fires. Yosemite National Park, with a mutual aid agreement with the California Department of Forestry and Fire Protection, has primary responsibility for response to wildland fires in the Wawona area. The expected increased use of Camp Wawona during off-peak periods is not expected to substantially increase the fire risk above existing conditions, and redevelopment of the camp would include compliance with the Uniform Building Code and fire preparedness and prevention codes and standards.

CEQA Significance: *Less than significant*

NEPA Significance: N/A (CEQA-only consideration)

Context of Impact: N/A

Duration of Impact: N/A

Intensity of Impact: N/A

Type of Impact: N/A

The proposed redevelopment project would result in an increase in camp usage during periods outside the current eight-week summer camp program. This increased usage would have a negligible effect on demand for fire protection services to the camp. The camp maintains its own fire suppression facilities and equipment. In addition, the Wawona Fire Station, operated by Yosemite National Park, has adequate staff and equipment to accommodate and assist the camp in the event of any increased demand for fire protection services. Additionally, Yosemite National Park has a mutual aid agreement with CDF to provide additional fire protection when necessary.

Fires in the area are less likely during the winter months when climate conditions are colder and wetter. However, fire risks could increase with increased human usage due to the increased chance for carelessness and accidents to occur. The availability of multiple fire service providers and the lower incidents of fire risk in winter months would offset the demand

for additional fire services such as more equipment, personnel, or facilities. Additionally, the camp redevelopment would require that all new facilities and the new camp layout be compliant with fire preparedness and prevention codes and standards developed by the National Fire Protection Association, as required by the County and the Uniform Building Code. Therefore, there would be a negligible increase in demand for fire protection services as a result of the project, this would be considered less-than-significant.

■ **Mitigation Measure 5.10-1: No mitigation is required.**

Impact 5.10-2: Need for New Stormwater Drainage Facilities. *Redevelopment of Camp Wawona would involve the construction on new stormwater detention and retention facilities (see Impact 5.6-1). The environmental consequences associated with the construction of these facilities are considered within the relevant resource areas under the proposed action.*

CEQA Significance: Less than significant

NEPA Significance: N/A (CEQA-only consideration)

Context of Impact: N/A

Duration of Impact: N/A

Intensity of Impact: N/A

Type of Impact: N/A

The redevelopment plans entail a new facility layout, with construction of modern facilities and expanded parking. The redevelopment of the camp would result in the need for construction of new stormwater drainage facilities. The construction of these facilities is considered with the relevant resource topics as part of the proposed action.

■ **Mitigation Measure 5.10-2: No additional mitigation is required.**

CUMULATIVE IMPACTS

No cumulative impacts to public services and utilities are expected from the proposed action.

IMPACTS OF NO PROJECT ALTERNATIVE

The No Project Alternative requires the removal of existing encroachments of Camp Wawona (i.e., the removal of three buildings, a portion of the Campfire Bowl area, the eastern end of the main entrance road, and a segment of the paved road to the south). All disturbed land would be restored to a natural condition.

Under the No Project Alternative, the camp would have not legal means to redevelop the facility. The No Project Alternative would not result in impacts to public utilities and services.

IMPACTS OF NO LAND EXCHANGE ALTERNATIVE

The No Land Exchange Alternative requires the removal of existing encroachments of Camp Wawona (i.e., the removal of three buildings, a portion of the Campfire Bowl area, the eastern

end of the main entrance road, and a segment of the paved road to the south). All disturbed land would be restored to a natural condition.

Under this alternative the redevelopment of Camp Wawona could be approved on the existing 30.45-acre Seventh-day Adventist property. The redevelopment of the camp and the potential increased usage would have a less-than-significant impact to public utilities and services as described for the proposed action.

REDUCED LAND EXCHANGE ALTERNATIVE

The Reduced Land Exchange Alternative is similar to the proposed action, but would involve a different configuration and amount of land to be exchanged (see Figure 3-1).

Under this alternative, redevelopment of Camp Wawona could be approved. The redevelopment of the camp and the potential increased usage would have a less-than-significant impact to public utilities and services, as described for the proposed action.

IMPACTS OF MINIMAL LAND EXCHANGE ALTERNATIVE

The Minimal Land Exchange Alternative is similar to the proposed action/action; however, this alternative would have a 100-foot-wide buffer between the wilderness area in the southern and eastern portions of the project site and the existing Camp Wawona facilities. With the exception of the No Project and No Land Exchange alternatives, this alternative would require the least amount of land to be exchanged and disturbed along Forest Drive.

Under this alternative the redevelopment could be approved. The redevelopment of the camp and the potential increased usage would have less-than-significant impacts to public utilities and services similar to the proposed action.

SUMMARY OF MITIGATION MEASURES

- **MM 5.10-1:** No mitigation is necessary.
- **MM 5.10-2:** No mitigation is necessary.

5.11 HAZARDS AND HAZARDOUS MATERIALS

5.11.1 IMPACT METHODOLOGY AND ASSUMPTIONS

This section addresses potential impacts from hazards and hazardous materials in the proposed action area related to the redevelopment of Camp Wawona and the proposed land exchange. The effects of the proposed action and project alternatives were analyzed using guidelines prepared for both CEQA and NEPA analysis, including relevant National Park Service guidance, as described below. Assumptions and information used to conduct this analysis are also described.

CEQA THRESHOLDS

CEQA mandates significance thresholds for Hazards and Hazardous Materials. The significance criteria are based upon the CEQA Guidelines. According to CEQA, impacts related to hazards and hazardous materials are deemed significant if a project would:

- ▶ create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- ▶ create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment;
- ▶ emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- ▶ be located on a site which is included on a list of hazardous materials sites compiled pursuant to government code section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- ▶ for a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area;
- ▶ for a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;
- ▶ impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- ▶ expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

NEPA/NPS THRESHOLDS

The hazardous materials discussion under NEPA focuses on effects that hazardous materials in Yosemite National Park would have on visitors, personnel, and the environment under each alternative during site preparation, site management, and any residual concentrations of hazardous substances which may pose a future threat. It identifies site conditions including previous hazardous material and petroleum product spills, the presence of hazardous materials and petroleum products, and describes the general impacts associated with these materials in the context of any activities in the project area. It also serves to identify areas within the project site that may require additional assessment and characterization for potential sources of environmental contamination. These sources could contaminate soil or groundwater or expose workers, staff, and students to certain health hazards.

Duration of Impact

The duration of the potential impacts may be characterized as short term or long term. Short-term impacts would be those that could be restored when project construction is completed. Although development of Camp Wawona is expected to occur over a 10-year period, measures related to hazardous materials would be implemented as they arose—not deferred to the end of the construction period. Long-term impacts would be related to future operation and maintenance of the camp, and would last more than 10 years.

Intensity of Impact

Impact intensity has been characterized as negligible, minor, moderate, or major. Negligible impacts would be imperceptible or not detectable. Minor impacts would be slightly perceptible and localized, without the potential to expand if left alone. Moderate impacts would be apparent and have the potential to become larger. Major impacts would be substantial, highly noticeable, and may be permanent.

Type of Impact

All hazardous material handling and spill events are potentially hazardous. The type of impact is related to risk. In general, reducing risk is considered a beneficial impact. The type of impact would be considered beneficial if there would be a decrease in risk by removing the amount or type of hazardous materials used or handled or by decreasing the frequency or number of people using them. In addition, beneficial impacts are those that restore natural environmental conditions (e.g., remove hazardous material spills or leaks).

Generally, the addition of facilities and infrastructure that require hazardous materials causing the potential for exposing people to greater levels of risk are considered adverse. Specifically, the type of impact would be considered adverse if it increased the quantity or type of hazardous materials used on the site; or it increased the frequency or number of people required to use these materials.

Context of Impact

Localized impacts would occur in the immediate vicinity of an action or in a nearby area indirectly affected by the action (e.g., radiating impacts of concentrated visitor use). Regional impacts would occur over a large area, such as Yosemite National Park. Hazardous materials have the potential to cause regional impacts because they could enter surface or ground water and become mobile.

ASSUMPTIONS

The following information, plans, and assumptions were used in the impact analysis for hazards and hazardous materials.

Because there are no schools or airports in close proximity to Camp Wawona, the site is not listed as a hazardous material site, and the project would not interfere with an adopted emergency response plan, the following conditions noted in the CEQA Guidelines do not apply to the proposed action:

- ▶ emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- ▶ be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- ▶ for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
- ▶ for a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area; and
- ▶ impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Phase I Environmental Site Assessment

As noted in Section 4.11, a Phase I Environmental Site Assessment survey was conducted by the National Park Service on April 16, 1997 for Camp Wawona and the federal lands proposed for exchange. This study indicated that there were no past or present uses which might indicate potential hazardous materials problems on the site. It was noted that there were two propane tanks and chlorine cylinders on the Camp Wawona property. These materials were used for pool maintenance. In 1993, the Seventh-day Adventists switched from chlorine gas water treatment to dry chemical treatment to reduce potential health hazards to church camp participants.

The site was not and is not listed on a list of hazardous materials sites compiled under Government Code Section 65962.5 (DTSC 2003) and would not create a significant hazard to the public or the environment.

Hazardous Waste Management

The County Health Department is responsible for enforcing State and Federal hazardous waste regulations and for implementing the County's Comprehensive Hazardous Waste Management Plan. The Management Plan is a guide for the reduction, treatment, recycling, and disposal of hazardous waste generated in Mariposa County. In addition to the Management Plan, pursuant to the California Code of Regulations (19 CCR §2729-2732) and §25503 of the Health and Safety Code, the Mariposa County Health Department has developed a Hazardous Material Business Plan program. The County Health and Fire departments are responsible for enforcing hazardous materials regulations and for implementing the Plan. The program tracks businesses and facilities that handle hazardous materials or mixtures containing hazardous materials if they exceed 500 pounds of solid, 55 gallons of liquid, or 200 cubic feet of gas.

Pacific Management Services updates the Hazardous Materials Plan for Camp Wawona every year. The most recent Hazardous Materials Management Plan (HMMP), completed in 2003, noted several hazardous materials on-site. These hazardous materials are chlorine, diesel fuel, unleaded gasoline, compressed gas (oxygen), propane, and waste motor oil. Facility audits conducted by the County Health Officer in 2002 revealed that the Training Plan, Business Plan and Emergency Response Plan were in compliance with Federal requirements. No violations were discovered.

In addition, the following standard best management practices (BMPs) related to the storage and handling of hazardous materials used during construction would be followed:

- ▶ all hazardous materials would be properly stored (e.g., flammable storage cans, flammable cabinets, etc.) as indicated by the National Fire Protection Administration (NFPA);
- ▶ if the project requires the removal or displacement of hazardous materials, training would be given to qualified personnel to handle these materials;
- ▶ fire extinguishers would be readily accessible to construction personal;
- ▶ construction equipment with internal combustion engines would be equipped with spark arrestors;
- ▶ only designated trained contractors and tanker trucks would be used for refueling vehicles (e.g., diesel and gasoline);
- ▶ construction vehicles would be refueled and maintained in designated onsite areas with adequate containment (e.g., earthen berms) to prevent uncontrolled spills;

- ▶ catch basins would be placed under equipment being serviced to catch drips and spills;
- ▶ no smoking restrictions would be established around areas that have flammable materials;
- ▶ equipment would be turned off when not in use; and
- ▶ routine inspection (e.g., weekly and monthly) of locations that contain hazardous materials would be conducted and records of these inspections maintained. Deficiencies identified during these inspections would be promptly remedied.

Fire Management Plan

Camp Wawona provides its own fire protection service. The camp contains two fire trucks. In the event that the camp cannot provide its own fire protection needs, the National Park Service has a station located across the South Fork Merced River that could provide such a service. The National Park Service has primary responsibility for responding to wildland fires in Yosemite National Park and in Section 35. Fire protection services are described in more detail in Section 4.10.

Emergency Response Plan

Mariposa County has prepared a Draft Evacuation Plan, and is in the process of working on a Comprehensive Emergency Management Plan to meet the requirements of Government Code §8607(a) in accordance with the California State Standardized Emergency Management System (SEMS) to manage and regulate the responses of multi-agency and multi-jurisdiction emergencies. Therefore, in the event of a fire or other disaster, the County and State may require evacuation of endangered areas. The Evacuation Plan of Mariposa County outlines procedures and routes for evacuation and identifies staging areas for evacuees and emergency personnel. Although Wawona is not identified specifically as a community service area, it is presumed that the Fish Camp staging areas would be used in the event of an emergency. These staging areas are: Tenaya Lodge, Wawona Hotel, and Station 12 (Oakhurst). The Draft Evacuation Plan has not been adopted by the County. However, when the Plan is adopted, it is anticipated that the project would be consistent with this plan.

Schools

The nearest school is the Wawona Elementary School. It is located in Wawona across the South Fork Merced River along Chilnualna Falls Road. The school is located over a quarter of a mile from the project site.

Landfill

There are no hazardous waste treatment facilities in the County. Therefore, solid waste is transported to the Merced County Landfill (County of Mariposa 2003a). Most of the hazardous waste transported to the landfill from the County was generated from internal combustion engines and small quantity generators.

Airports

The proposed action site is not in the vicinity of an airport. The nearest airport is the Mariposa-Yosemite Airport, located on Highway 49 approximately four miles northwest of Mariposa. This is the only public airport in Mariposa County. There are also no known private airstrips in proximity to Camp Wawona.

5.11.2 IMPACT ANALYSIS

While the CEQA Guidelines contain a list of specific considerations when assessing potential impacts from hazards and hazardous materials, the intent of these criteria is comparable to the expectations for maintaining environmental health and human safety as discussed under NEPA and relevant National Park Service policies. Therefore, the following impact analysis addresses state and federal guidelines concurrently. The impacts associated with the proposed action are described first, as are mitigation measures that would avoid or reduce significant adverse impacts. Following the discussion of each potential impact, summary statements specific to both CEQA and NEPA/National Park Service standards are provided.

The discussion of the proposed action is followed by a description of impacts associated with the project alternatives. Any substantial differences between impacts associated with the alternatives, as compared to the proposed action, are described. If impacts are generally comparable to the proposed action, this conclusion is briefly stated.

IMPACTS OF PROPOSED ACTION

Impact 5.11-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. *Camp Wawona uses several hazardous materials (e.g., chlorine, diesel fuel) during routine operations. A Hazardous Materials Management Plan for the camp is in place, and is monitored. No hazardous materials violations have been recorded. Compliance with the management plan, and proper handling and disposal of hazardous materials would continue under the proposed action. Project construction and demolition activities would involve hazardous materials. These construction-related materials would be labeled, handled, and disposed of in accordance with applicable local, state, and federal laws.*

CEQA Significance: *Less than significant*

NEPA Significance: *N/A (CEQA-only consideration)*

Context of Impact: *Local*

Duration of Impact: *Short-term (construction); Long-term (operations)*

Intensity of Impact: *Negligible*

Type of Impact: *Adverse*

The operations at Camp Wawona involve use of several hazardous materials (e.g., chlorine, diesel fuel, etc). These materials have been recorded and included in the Hazardous Materials Management Plan for the camp. No hazardous materials violations have been recorded. Materials no longer in use would be taken to the Merced County Landfill for proper disposal.

If hazardous materials are located on site during construction, existing hazardous material regulations would be followed.

Proposed action construction and demolition would involve hazardous materials. These materials would also be labeled, handled, and disposed of in accordance with applicable local, state, and federal laws.

■ **Mitigation Measure 5.11-1: No mitigation is required.**

Summary of CEQA Analysis

With adherence to applicable local, state, and federal laws related to hazardous materials use during camp operations, this impact would be less than significant. No mitigation is required.

Summary of NEPA/NPS Analysis

The use, storage, handling, and disposal of hazardous materials during camp operations, when conducted in compliance with applicable local, state, and federal laws and regulations, would be a local, negligible, short- (construction) and long-term (operations), adverse impact.

Impact 5.11-2: Release of materials such as asbestos or lead during demolition. *Redevelopment of Camp Wawona would involve the demolition and removal of existing structures that may contain asbestos or lead-based paint. Release of these materials into the environment could result in significant health hazards to construction workers and the public. The nature and extent of these potential hazards has not been identified. Compliance with the regulations issued by the Occupational Health and Safety Administration, and with applicable hazardous materials laws for the handling and disposal of these materials, would be required.*

CEQA Significance: *Less than significant with mitigation incorporated*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Local*

Duration of Impact: *Short-term (construction)*

Intensity of Impact: *Negligible*

Type of Impact: *Adverse*

Asbestos and lead-based paint may occur in existing structures located on the project site. The carcinogenic properties of asbestos have resulted in strict regulations for the demolition of structures found to contain asbestos compounds. These regulations are for the benefit of both the demolition workers and future residents/occupants of the buildings constructed on site. The local office of the Occupational Safety and Health Administration (OSHA) must be notified before asbestos abatement can be carried out. The company contracted to remove asbestos must be a certified abatement company, and must follow state regulations if the work involves the removal of over 100 square feet of asbestos materials (8 CCR 1529 and 8 CCR 341.6). Adherence to the regulations regarding removal of asbestos materials would reduce the risk of asbestos exposure during removal of the structures.

Hazardous building materials such as asbestos and lead-based paint in buildings scheduled for demolition would cause a significant impact if they were released in quantities and/or locations where they would pose significant public health hazard. Pending identification of the nature and extent of potential hazards, this impact is considered potentially significant.

■ **Mitigation Measure 5.11-2: Hazardous Materials Investigation.**

A thorough investigation would be made of each structure on the project site scheduled for demolition during implementation of the project. The study would focus on locating sources of asbestos, lead-based paint, and other hazardous building materials that could exist in the older camp structures. If these substances are located in a building scheduled for demolition, removal would be conducted according to OSHA regulations.

Summary of CEQA Analysis

With implementation of the Mitigation Measure 5.11-2 and adherence to OSHA regulations and associated local, state, and federal hazardous materials laws, the impact of contamination from asbestos, lead-based paint, or other hazardous construction materials would be reduced to a less-than-significant level.

Summary of NEPA/NPS Analysis

With implementation of Mitigation Measure 5.11-2 and adherence to OSHA regulations and associated hazardous materials laws, the short-term, local, adverse impact associated with demolition of the existing buildings at camp Wawona would be negligible.

Impact 5.11-3: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. *Redevelopment of Camp Wawona would involve use of hazardous materials such as fuels, lubricants, compressed gases, cleaning fluids, sealants, and other construction materials that contain hazardous chemicals. These construction-related materials would be labeled, handled, and disposed of in accordance with applicable local, state, and federal laws.*

- CEQA Significance: *Less than significant*
- NEPA Significance: *Less than significant*
- Context of Impact: *Local*
- Duration of Impact: *Short-term (construction)*
- Intensity of Impact: *Negligible*
- Type of Impact: *Adverse*

Hazardous materials to be used during the construction of the proposed action would involve fuels (e.g., gasoline and diesel), lubricants (e.g., motor oil, greases, and hydraulic fluids), compressed gases (e.g., oxygen), and cleaning fluids (e.g., organic solvent and water-based cleansers), sealants, welding rods, and piping cement. The BMPs described above for the handling of hazardous materials would be implemented.

■ **Mitigation Measure 5.11-3: No mitigation is required.**

Summary of CEQA Analysis

With implementation of the BMPs described in Section 5.11.1, impacts related to the handling of hazardous materials during construction would be less than significant. No mitigation is required.

Summary of NEPA/NPS Analysis

With implementation of the BMPs described in Section 5.11.2, adverse impacts related to the handling of hazardous materials during construction would be local, short term, and negligible.

Impact 5.11-4: Expose people or structures to a significant risk of loss, injury or death

involving wildland fires. *Camp Wawona is located in a rural, forested area within Yosemite National Park. Human activities such as brush clearing, use of camp fires, automobiles, and cigarettes often result in the ignition of wildland fires. Intentional actions (i.e., arson) are also common causes of wildland fires and associated damage to natural resources and property. The nature of use at Camp Wawona, involving numerous transient occupants, could result in a wildland fire that would spread inside or outside of the camp. Camp Wawona could also be affected by a wildland fire started elsewhere. These conditions currently exist, but would be increased by the expected additional use of the camp in off-peak periods (i.e., late summer through late spring).*

CEQA Significance: *Less than significant with mitigation incorporated*

NEPA Significance: *Less than significant with mitigation incorporated*

Context of Impact: *Regional*

Duration of Impact: *Long-term (operational)*

Intensity of Impact: *Moderate*

Type of Impact: *Adverse*

The project is located in a forested, rural area of Yosemite National Park. Wildfires are an essential part of many wilderness ecosystems. Wildland vegetation must burn periodically in order to survive and grow by cleansing the forest of disease and insects, thinning stands of wood, recycling nutrients otherwise held in vegetation, and creating snags that serve as wildlife habitat.

Although fires are a necessary part of many ecosystems, they nevertheless can be imminently dangerous to human populations. In addition, wildfires increase the potential for soil erosion and sedimentation, and adversely affect air quality.

The greatest risk of wildfires occurs when people choose to live in fire prone areas. While wildfires are caused by both natural and human means, human error has historically been the cause of most large fires in Mariposa County. Human activities that can cause fires include brush clearing, camp fires, automobiles, cigarettes and arson. Most wildfires in Mariposa County occur in areas where developed land borders the wilderness. These areas are typically

overgrown, creating large amount of combustible fuel that will feed fires. The County has programs to limit fuel levels, clear and manage overgrown brush, and educate the community on fire prevention. The County Fire Safe Council works with local communities to discuss and implement fire prevention and management strategies. In addition, the California Department of Forestry has established minimum fire safety standards for all new construction (19 CCR §§1.00-2352) that include road standards for fire equipment access, standards for signs identifying streets, roads, and buildings, minimum private water supply reserved for emergency fire use, and fuel breaks and green belts.

The nature of use at Camp Wawona, involving numerous transient occupants, could result in an inadvertent wildfire. Because the camp is located in a rural area surrounded by mature woody vegetation, there is also the potential for offsite wildfires to reach the camp facilities and users of the camp. These potential impacts are considered significant.

■ **Mitigation Measure 5.11-4: Reduction of Wildfire Risk.**

To reduce the risk that use of Camp Wawona would result in a wildland fire, the following practices would be implemented:

- a) Ensure that private roads and driveways are sufficiently wide to allow for emergency vehicles access;
- b) Maintain the existing circulation system using roads (e.g., Bills Hill Road) connecting through other parcels to regional roadways for emergency access;
- c) Maintain sufficient onsite emergency water supply and firefighting equipment to control and contain fires that could start on the camp property;
- d) Maintain clear ground around any areas where open fires would be used, and maintain fire suppression materials (e.g., shovels, buckets of water) in those locations;
- e) Install signs that provide easy identification of roads, driveways, and emergency escape routes;
- f) Employ design specifications for new buildings to reduce the risk of damage during wildland fires, including use of brick, stucco, or thicker wood siding materials for exterior walls, the enclosure of the underside of balconies and decks with fire resistive materials, roofing with Class A fire resistive or noncombustible material, eaves that are boxed or enclosed with fire resistive materials, and limiting the number and size of windows facing large areas of flammable vegetation.
- g) Maintain fuel breaks between structures and vegetation. Width of fuel breaks shall be determined by CDF.

- h) Maintain a minimum of 15 feet between heating oil tanks and structures.

Summary of CEQA Analysis

With implementation of Mitigation Measure 5.11-4, the risks of impacts associated with wildland fires would be less than significant.

Summary of NEPA Analysis

With implementation of Mitigation Measure 5.11-4, the wildland fire risks would be regional in scope, moderate, adverse, and long term.

Cumulative Impacts

Cumulative effects related to hazards and hazardous materials are based on analysis of past, present, and reasonably foreseeable future actions in the South Fork Merced River valley in combination with potential effects of the proposed action. There are no other projects that would contribute cumulatively to issues related to the handling, management, disposal, or accidental release of hazardous materials. The possible development of employee housing by the National Park Service in the Wawona area could further increase the risk of inadvertently initiating a wildland fire, and increase the adverse impacts of wildland fires on human developments and populations. However, these cumulative impacts would not be significant under CEQA or NEPA.

Impairment

There would be no impairment of park resources or values associated with the proposed action. The potential for a wildland fire originating at Camp Wawona that could involve lands within the Yosemite Wilderness Area is an existing condition. With onsite water supply and fire fighting equipment maintained by Camp Wawona, this potential impact is managed to an appropriate level.

IMPACTS OF PROJECT ALTERNATIVES

No Project Alternative

The No Project Alternative would require the removal of existing encroachments, but no other construction activities or changes in camp operations. The demolition of the existing building could require the removal and disposal of materials such as lead-based paint or asbestos, which may have been used during construction of these facilities. As such, Impact 5.11-2 and Mitigation Measure 5.11-2, as described for the proposed action, would be applicable. Impacts related to the handling of hazardous materials during camp operations and potential wildland fire issues would be unchanged from existing conditions under the No Project Alternative. Because no new construction would occur, Impact 5.11-3 would not be applicable to this scenario.

No Land Exchange Alternative

The No Land Exchange Alternative will require the removal of existing encroachments, which may require the removal or displacement of hazardous materials. New construction could be allowed under this alternative, but it would be located within the existing 30.45-acre parcel owned by the Seventh-day Adventists. Each of the impacts and associated mitigation measures described for the proposed action would be applicable to the No Land Exchange Alternative, and these impacts would be essentially the same as previously discussed.

Reduced Land Exchange Alternative

The Reduced Land Exchange Alternative would involve the same actions as described for the proposed action, although on a slightly revised configuration of land (see Figure 3-2). The impacts related to hazards and hazardous materials, as well as associated mitigation measures, would be the same as those described for the proposed action.

Minimal Land Exchange Alternative

The Minimal Land Exchange Alternative would involve the same actions as described for the proposed action, although on a slightly revised configuration of land (see Figure 3-2). The impacts related to hazards and hazardous materials, as well as associated mitigation measures, would be the same as those described for the proposed action.

SUMMARY OF MITIGATION MEASURES

- **Mitigation Measure 5.11-1:** No mitigation is required
- **Mitigation Measure 5.11-2:** Hazardous Materials Investigation
- **Mitigation Measure 5.11-3:** No mitigation is required
- **Mitigation Measure 5.11-4:** Reduction of Wildfire Risk

6 MERCED WILD AND SCENIC RIVER

On October 27, 2003, the United States Court of Appeals for the Ninth Circuit filed an opinion concerning the Merced Wild and Scenic River Comprehensive Management Plan (Merced River Plan). While the Ninth Circuit opinion overall upheld the Merced River Plan, it did remand the case back to the District Court to address the finding that the Merced River Plan "... inadequately addresses user capacities by failing to set the 'maximum quantity of use' for the river area ..." The National Park Service is developing a response to this filing, and determining what, if any, ramifications this ruling has relative the Camp Wawona Redevelopment Project and Proposed Land Exchange.

6.1 INTRODUCTION

In the 1960s, the United States came to recognize that the nation's rivers were being dredged, dammed, diverted, and degraded at an alarming rate. In response, the U.S. Congress established the Wild and Scenic Rivers Act, in October of 1968. Designation as a Wild and Scenic River is given to rivers that have been identified as having distinctively unique or "outstandingly remarkable" values that set it apart from other rivers, making it worthy of special protection. The goal of designating a river as Wild and Scenic is to preserve its free-flowing character and unique qualities.

In 1987, Congress designated the Merced River a Wild and Scenic River to protect the river's free-flowing condition and to protect and enhance its unique values for the benefit and enjoyment of present and future generations (16 USC §1271). This designation gives the Merced River special protection under the Wild and Scenic Rivers Act and requires the managing agencies to prepare a comprehensive management plan for the river and its immediate environment.

After reaching a Record of Decision on the final environmental impact statement, the National Park Service released the Merced Wild and Scenic River Comprehensive Management Plan (Merced River Plan) in February 2001. This plan outlines how the Merced Wild and Scenic River corridor will be managed (NPS 2001c). The Merced River Plan applies seven management elements to prescribe desired future conditions, typical visitor activities and experiences, and park facilities and management activities allowed in the river corridor. The management elements include boundaries, classifications, Outstandingly Remarkable Values, the Wild and Scenic River Act Section 7 determination process, the River Protection Overlay, Management Zoning, and the Visitor Experience and Resource Protection framework.

The National Park Service uses the management elements of the Merced River Plan as a set of decision-making criteria with which to evaluate projects in the Merced River corridor, such as the Camp Wawona Redevelopment and Proposed Land Exchange Project. This chapter evaluates the consistency of the proposed action with the management elements of the Merced River Plan.

This chapter includes:

- ▶ an overview of the Wild and Scenic Rivers Act,
- ▶ an overview of the Merced River Plan and its management elements,
- ▶ methods for evaluating the consistency of the proposed action with the Merced River Plan management elements, and
- ▶ an analysis of the consistency of the proposed action with the Merced River Plan management elements.

6.2 WILD AND SCENIC RIVERS ACT

The Wild and Scenic Rivers Act (Public Law 90-542, as amended) states the following:

It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

Outstandingly Remarkable Values are defined by the Wild and Scenic Rivers Act as those resources within a river corridor worthy of special protection. These are the values for which a river is added to the National Wild and Scenic Rivers System. The Wild and Scenic Rivers Act stipulates that these values are to be protected and enhanced. It also stipulates that each agency charged with administration of a segment of the Wild and Scenic Rivers System establish boundaries (an average of not more than 320 acres per mile on both sides of the river) and prepare a comprehensive management plan to provide for the protection of river values. The plan must address resource protection, development of lands and facilities, user capacities, and other management practices necessary to achieve the purposes of the act. The Merced River Plan fulfills this requirement.

Section 2 of the Wild and Scenic Rivers Act requires that the river be classified and administered as Wild, Scenic, or Recreational river segments, based on the condition of the river corridor at the time of boundary designation. The classification of a river segment indicates the existing level of development on the shorelines and in the watershed, and the accessibility by road or trail. Classifications are defined in the act as follows:

- ▶ *Wild river areas.* Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shoreline essentially primitive and waters unpolluted.

- ▶ *Scenic river areas.* Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- ▶ *Recreational river areas.* Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

6.2.1 1987 DESIGNATION OF THE MERCED WILD AND SCENIC RIVER

Public Law 100-149 (enacted in 1987) and Public Law 102-432 (enacted in 1992) placed 122 miles of the Merced River into the National Wild and Scenic Rivers System. The National Park Service administers a total of 81 miles of the Merced River, encompassing both the main stem and the South Fork Merced River in Yosemite National Park and the El Portal Administrative Site. (This portion of the Merced River is referred to hereafter as the Merced Wild and Scenic River.) The U.S. Forest Service and the Bureau of Land Management administer the remaining 41 miles of the designated river.

6.3 MERCED WILD AND SCENIC RIVER COMPREHENSIVE MANAGEMENT PLAN

In February 2001, the National Park Service released the Merced River Plan. This plan lays out the policy direction by which the National Park Service will manage the 81 miles of river corridor under its jurisdiction.

The purpose of the Merced River Plan is:

...to provide direction and guidance on how best to manage visitor use, development of lands and facilities, and resource protection within the river corridor. The National Park Service developed a series of planning goals to guide management decision-making in these areas. The Merced River Plan is a template against which project implementation plans will be judged to determine whether such projects will protect and enhance the values for which the Merced River was designated Wild and Scenic. As a result, the Merced River Plan provides general direction and guidance for future management decisions; it does not address the specific details of future projects.

6.3.1 MERCED WILD AND SCENIC RIVER MANAGEMENT ELEMENTS

As a programmatic plan, the Merced River Plan does not specify detailed actions. Instead, it applies seven management elements to prescribe desired future conditions, typical visitor activities and experiences, and park facilities and management activities allowed in the river corridor. The management elements include the following: boundaries, classifications, Outstandingly Remarkable Values, the Wild and Scenic Rivers Act Section 7 determination process, the River Protection Overlay, management zones, and the Visitor Experience and Resource Protection framework. These management elements are described briefly below as they relate to the proposed action.

BOUNDARIES

Boundaries define the areas managed under the comprehensive management plan. The act allows for river corridor boundaries averaging no more than 320 acres of land per river mile, measured from the ordinary high-water mark on both sides of the river. Boundaries, however, do not limit protection of Outstandingly Remarkable Values, which must be protected regardless of whether they are inside or outside the corridor boundaries.

In Wawona, the river boundary is defined as one-quarter mile from ordinary high water (as defined by the U.S. Army Corps of Engineers in 33 CFR §328.3). Ordinary high water is the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area. As shown in Figure 6.1, Camp Wawona is situated within the boundaries of the Merced Wild and Scenic River's South Fork, specifically within river Segment 7 (Wawona).

CLASSIFICATIONS

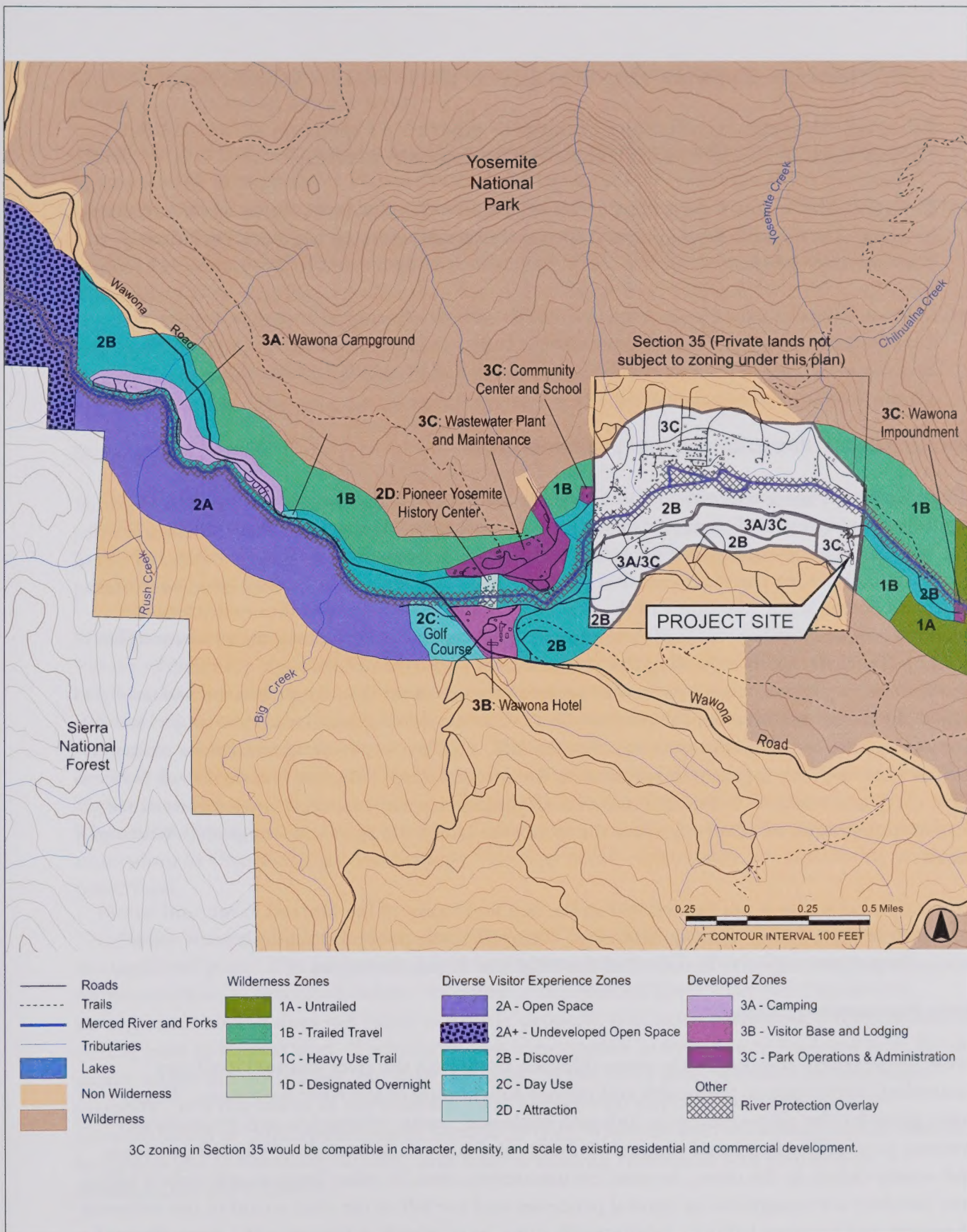
The classifications of Wild, Scenic, or Recreational are applied to each segment of the river corridor and are based on the existing condition of the river at the time of river designation. The classification of a river segment indicates the level of development on the shorelines, the level of development in the watershed, and the degree of accessibility by road or trail. The South Fork Merced River in Wawona (Segment 7), including the project area is classified as Recreational due to its accessibility and the amount of development within the boundary.

OUTSTANDINGLY REMARKABLE VALUES

Outstandingly Remarkable Values are the river-related values that make the river segment unique and worthy of special protection. They form the basis for the river's designation as a Wild and Scenic River. As the Merced River enters the Wawona area, it flattens out to a gentler gradient with a broader floodplain of rocky cobbles. There are clear views of Wawona Dome, and species such as the protected Wawona riffle beetle are found in wetlands and riparian habitats within the river corridor. Cultural resources along the river corridor through Wawona include both pre-contact and historic archeological sites, settlement and homestead sites, 19th century resort development, and historic National Park Service structures.

Outstandingly Remarkable Value categories identified for the Wawona segment of the Merced River include:

- ▶ *Scientific.* The entire river corridor constitutes a highly significant scientific resource because the river watershed is largely within Yosemite National Park. Scientific Outstandingly Remarkable Values relate to the Merced River's value for research. This Outstandingly Remarkable Value applies to all the Merced River segments.



Source: Merced Wild and Scenic River Comprehensive Management Plan 2001

Management Zones-Wawona

Camp Wawona Redevelopment and Land Exchange EIR
G 2T072.01 9/03

FIGURE 6-1

EDAW

- ▶ *Scenic.* This segment provides views from the river and its banks of Wawona Dome.
- ▶ *Recreation.* This segment offers opportunities to experience a spectrum of river-related recreational activities, from nature study and photography to hiking.
- ▶ *Biological.* This segment contains a diversity of river-related species, wetlands, and riparian habitats. There are federal and state special-status species in this segment, including Wawona riffle beetle.
- ▶ *Cultural.* This segment contains evidence of thousands of years of human occupation, including numerous prehistoric and historic Indian villages, historic sites, structures, and landscape features related to tourism, early Army and National Park Service administration, and homesteading.

WILD AND SCENIC RIVERS ACT SECTION 7 DETERMINATION

When Congress enacted the Wild and Scenic Rivers Act in 1968, it sought to end decades of damming, dredging, and diversion of some of the nation's most spectacular waterways. While the Wild and Scenic Rivers Act does not prohibit development along a river corridor, it does specify guidelines for the determination of appropriate actions within the bed and banks of a Wild and Scenic River. Section 7 of the Wild and Scenic Rivers Act specifies restrictions on hydroelectric and water resources development projects, and a key management element for guiding future decisions regarding the Merced River is carried out through a Section 7 determination process. Water resources projects (that is, those that are within the bed or banks of the Merced River and that affect the river's free-flowing condition), are subject to Section 7 of the Wild and Scenic Rivers Act (16 USC §1278). As the designated river manager for the Merced River segments addressed by the Merced River Plan, the National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure they do not directly or adversely affect the values for which the river was designated Wild and Scenic.

The proposed action is not located within the bed and banks of the Merced River, and would not affect the river's free-flowing condition. Therefore, the proposed action is not a water resources project subject to Section 7 of the Wild and Scenic Rivers Act.

RIVER PROTECTION OVERLAY

Areas immediately adjacent to the river channel, along with the river channel itself, are particularly important to the health and proper functioning of the river ecosystem. These areas allow for the main channel to link with backwater areas, tributaries, and groundwater systems; provide for increased channel diversity; and contribute sources of needed nutrients and woody debris to the river. In most circumstances, trees or other large woody debris falling into the river are recognized as natural processes and are left in the river to aid in the recovery of aquatic and riparian habitat. Additionally, areas immediately adjacent to the river channel

can help protect surrounding development from potential flood damage and aid to filter runoff water draining into the river.

To ensure that the river channel itself and the areas immediately adjacent to the river are protected, the Merced River Plan includes a management tool called the River Protection Overlay. It is intended as a primary mechanism to achieve the goals of the Merced River Plan. The River Protection Overlay is also intended to identify the location of areas of highest priority for restoration of hydrologic processes and biotic habitats within the river corridor. This critical zone provides a buffer area for natural flood flow, channel formation, riparian vegetation, and wildlife habitat and would protect riverbanks from human-caused impacts and associated erosion. In the Wawona area, the River Protection Overlay includes the river channel itself and extends 150 feet on both sides of the river, measured from the ordinary high-water mark. The proposed action is not within the River Protection Overlay.

MANAGEMENT ZONING

Management zoning is a technique used by the National Park Service to classify park areas and prescribe future desired resource conditions, visitor activities, and facilities. Similar to zoning found in other types of land use planning, such as municipal zoning, management zoning prescribes future desired conditions for a particular area.

Management zoning was developed to protect and enhance the Outstandingly Remarkable Values within each segment of the river. Specifically, the Merced River Plan places an emphasis on integrating protection and enhancement of outstandingly remarkable natural and cultural resource values with the protection and enhancement of the outstanding remarkable recreation values within the river corridor. Management zoning prescribes certain uses and facilities not allowed in an area. Before such zoning existed, additional development and higher intensity uses by park visitors could have resulted in impacts to Outstandingly Remarkable Values over the long term. Management zoning also provides opportunities for restoration of Outstandingly Remarkable Values in areas where lower use and facility levels are prescribed.

The Camp Wawona Redevelopment and Proposed Land Exchange project is located in one management zone. The project area is in management zone 3C – Park Operations and Administration, as described below. As noted in the Merced River Plan (see Figure 6.1), management zoning does not apply to private property that exists within the river corridor; it only applies to federal land. Technically, this zone applies to the 18-acre National Park Service parcel within the project site, but does not apply to the 30.45-acre Seventh-day Adventists property. It is the intent of the National Park Service that any other development for administration or park operations in Section 35 (i.e., Wawona) with 3C zoning would need to be compatible in character, density, and scale to existing residential and commercial development (NPS 2001c).

Management Zone 3C

The limited use of the Park Operations and Administration zone would provide locations for facilities that support the efficient functioning of the park. Many areas designated as 3C have been previously developed. The 3C zone would also provide opportunities for the management of private vehicles and public transit in the park, as well as interpretive centers that help visitors learn about the park's natural and cultural resources. Visitor use and experience of these zones would be limited. These areas would likely be relatively busy, with heavy impacts from vehicles, and would be managed with a high tolerance for resource impacts in localized areas. New facilities would use sustainable design and construction principles to protect adjacent natural and cultural resources and would be subject to the criteria and considerations.

The Park Operations and Administration zone would primarily support access to the recreational Outstandingly Remarkable Values of the Merced River by providing space for necessary park operations purposes, as well as for day-visitor parking. Additionally, by concentrating relatively high-impact development in localized areas, this zone would help to protect and enhance natural and cultural resources in the zone as a whole and in other parts of the river corridor.

VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Visitor Experience and Resource Protection (VERP) framework is a tool developed by the National Park Service to address user capacities, and was adopted by the Merced River Plan to meet the requirements of the Wild and Scenic Rivers Act. The VERP framework protects both park resources and visitor experience from impacts associated with visitor use, and helps managers address visitor-use issues. The VERP framework is an ongoing, iterative process of determining desired conditions (including desired cultural resource conditions, desired natural resource conditions, and desired visitor experiences), selecting and monitoring indicators and standards reflecting these desired conditions, and taking management action when desired conditions are not realized.

The National Park Service began development of the parkwide VERP framework in 1998 and continues to develop desired conditions, indicators, standards, and monitoring protocols. The VERP framework outlined in the Merced River Plan will be implemented by 2005. In the interim, the National Park Service will implement existing management activities and direction contained in the Merced River Plan (e.g., Wild and Scenic Rivers Act Section 7 determination, River Protection Overlay, management zoning prescriptions) to address user capacity, protection and enhancement of Outstandingly Remarkable Values, and management of park resources, visitor use, and facilities. In addition, the National Park Service will initiate increased resource monitoring to ensure that conditions do not deteriorate. Appropriate management actions, consistent with existing management activities, will be implemented to prevent further degradation of resources.

6.4 METHODOLOGY

This assessment is based on the management elements developed in the Merced River Plan. The project area lies in South Fork-Wawona (Segment 7) of the Merced Wild and Scenic River. This Wild and Scenic Rivers Act analysis is required because the proposed action is within the Wild and Scenic River boundaries.

For the purposes of this analysis of potential effects on Outstandingly Remarkable Values, all of the Alternatives are compared to the No Action Alternative. The focus of the analysis is on long-term effects (e.g., effects that would last 10 years or more or would be permanent). Short-term effects are not addressed in this analysis unless they are of sufficient magnitude (i.e., having a substantial, highly noticeable influence) to warrant consideration.

The action alternatives have been assessed with regard to: (1) protection and enhancement of Outstandingly Remarkable Values; (2) compatibility with classifications; (3) consistency with the River Protection Overlay; and (4) consistency with management zoning.

6.4.1 PROTECTION AND ENHANCEMENT OF OUTSTANDINGLY REMARKABLE VALUES

Pursuant to Section 10(a) of the Wild and Scenic Rivers Act, the act shall be administered to protect and enhance Outstandingly Remarkable Values within the Wild and Scenic River corridor boundary. Uses that are consistent with this provision and that do not substantially interfere with public enjoyment and use of these values should not be limited (16 United States Code §1281[a]). In addition, Outstandingly Remarkable Values located outside the Wild and Scenic River corridor boundary must also be protected.

According to the Wild and Scenic Rivers Act, Outstandingly Remarkable Values must be protected and enhanced on a segment-wide basis. Analysis of Outstandingly Remarkable Values is thus focused on segment-wide effects rather than site-specific or localized effects. Exceptions to the segment-wide guideline include site-specific activities that could have substantial effects on Outstandingly Remarkable Values, such as degradation of habitat of a river-related special-status species (a biological Outstandingly Remarkable Value) that is endemic to that location. For the Camp Wawona Redevelopment and Proposed Land Exchange Project, Outstandingly Remarkable Values are evaluated based on effects to such values within the South Fork-Wawona segment of the Merced River.

In terms of evaluating potential effects to Outstandingly Remarkable Values, actions that could degrade Outstandingly Remarkable Values on a segment-wide basis include actions with effects that would be discernible throughout the majority of the river segment, or would be of sufficient magnitude to affect adjacent segments. For this analysis, the following assumptions for each Outstandingly Remarkable Value were made:

- ▶ *Scientific.* The analysis considers whether the action alternatives would affect the integrity of the Merced Wild and Scenic River as a scientific resource or would degrade the river's value for research.

- ▶ *Scenic*. The analysis considers the specific features that are listed in the scenic Outstandingly Remarkable Value for the South Fork-Wawona segment; potential effects to views are analyzed from the perspective of a person situated near the proposed action site.
- ▶ *Recreation*. The analysis considers whether opportunities to experience a spectrum of river-related recreational activities would be affected.
- ▶ *Biological*. The analysis focuses on effects to riparian areas, wetlands, low-elevation meadows, and other riverine areas that provide rich habitat for a diversity of river-related species.
- ▶ *Cultural*. The analysis considers effects to river-related cultural resources, including archeological sites and ongoing traditional uses (e.g., medicinal plant gathering). The analysis also considers effects on nationally significant historic resources, such as designed landscapes and developed areas, historic buildings, and circulation systems (trails, roads, and bridges) that provide visitor access to culturally valuable views.

It is possible for Outstandingly Remarkable Values to be in conflict with each other, or for an action to have beneficial impacts with regard to one Outstandingly Remarkable Value and adverse impacts with regard to other Outstandingly Remarkable Values. The Merced River Plan recognizes this possibility, stating:

Actions must protect all Outstandingly Remarkable Values, regardless of where they are located. When Outstandingly Remarkable Values lie within the boundary of the Wild and Scenic River, the value must be protected and enhanced. When values are in conflict with each other, the net effect to Outstandingly Remarkable Values must be beneficial.

The Wild and Scenic Rivers Act stipulates that agencies be given discretion to manage a river system with “varying degrees of intensity for its protection and development, based on the special attributes of the area.” For example, there may be conflicts between protecting cultural resources and hydrologic processes, as would be the case with a historic bridge that constricts the flow of the river.

6.4.2 WILD AND SCENIC RIVERS ACT SECTION 7 DETERMINATION PROCESS

Pursuant to the Wild and Scenic Rivers Act, the National Park Service must carry out a Section 7 determination on all proposed water resources projects. The Camp Wawona Redevelopment and Proposed Land Exchange Project is not located within the bed and banks of the Merced River; therefore, it is not a water resources project subject to Section 7 of the Wild and Scenic Rivers Act.

6.5 CONSISTENCY WITH THE MERCED RIVER PLAN

6.5.1 OUTSTANDINGLY REMARKABLE VALUES

The effects of the action alternatives are summarized in Table 6.1. Overall, the action alternatives would protect and enhance each Outstanding Remarkable Value on a segment-wide basis.

Table 6-1

Effects of the Action Alternatives on Outstandingly Remarkable Values in the South Fork-Wawona Segment of the Merced Wild and Scenic River Corridor

Outstanding Remarkable Value	Effects of the Action Alternatives
Scientific	
The entire river corridor constitutes a highly significant scientific resource because the river watershed is largely within Yosemite National Park. Scientific Outstandingly Remarkable Values relate to the Merced River's value for research. This Outstandingly Remarkable Value applies to all the Merced River segments.	The action alternatives would have no effect on the scientific Outstandingly Remarkable Values. None of the action alternatives would affect the integrity of the Merced Wild and Scenic River as a scientific resource or would degrade the river's value for research.
Scenic	
This segment provides views from the river and its banks of Wawona Dome.	The action alternatives would have no effect on the view of Wawona Dome from the river.
Recreation	
This segment offers opportunities to experience a spectrum of river-related recreational activities, from nature study and photography to hiking.	The action alternatives would have no effect on the recreation Outstandingly Remarkable Value. Neither alternative would affect the integrity of or public access to the Merced Wild and Scenic River as a recreational resource.
Biological	
This segment contains a diversity of river-related species, wetlands, and riparian habitats. There are federal and state special-status species in this segment, including Wawona riffle beetle.	The action alternatives would allow the Seventh-day Adventists to redevelop Camp Wawona. The project site does not contain river-related species, wetlands, or riparian habitats. Therefore the action alternatives would have no effect on the biological Outstanding Remarkable Value.
Cultural	
This segment contains evidence of thousands of years of human occupation, including numerous prehistoric and historic Indian villages, historic sites, structures, and landscape features related to	There are no known prehistoric or historic sites, structures, or features that would be affected by the action alternatives. However, there is the potential for unknown site deposits to occur

tourism, early Army and National Park Service administration, and homesteading. The Wawona Archaeological District, which has been determined eligible for inclusion in the National Register of Historic Places, encompasses much of the South Fork Merced River, including the project site.

within the project site. This possibility is discussed in Section 5.5 of this EIR. However, with adherence to archaeological phasing implemented by the National Park Service and compliance with Section 106 of the National Historic Preservation Act, there would be no overall effect to cultural Outstanding Remarkable Values.

6.5.2 RELATIONSHIP TO BOUNDARY

The proposed action would occur within the Merced Wild and Scenic River boundary in Segment 7, South Fork-Wawona.

6.5.3 CLASSIFICATIONS

The South Fork-Wawona segment in which the proposed action would occur is classified as Recreational due to its accessibility by road and the public and private development within the river segment.

The proposed action would be compatible with the Recreational classification. While the amount and type of recreational development and activities would increase with redevelopment of Camp Wawona, there would be no detrimental effect on the South Fork Merced River. Vehicle access to the river would not change.

6.5.4 RIVER PROTECTION OVERLAY

The proposed action would be situated outside the River Protection Overlay.

6.5.5 MANAGEMENT ZONING

The Wawona segment includes the South Fork Merced River from the Wawona Impoundment to the park boundary, including parts of Section 35. This segment contains numerous privately owned properties. Private land within the river corridor would not be subject to zoning under this plan. Zoning designations apply only to publicly held property. However, the National Park Service would work with Mariposa County and the local community to ensure that river-related values are protected. However, as stated above, it is the intent of the National Park Service that any other development for administration or operations in Section 35 with 3C zoning would need to be compatible in character, density, and scale to the existing residential and commercial development.

6.5.6 VISITOR EXPERIENCE AND RESOURCE PROTECTION

The Camp Wawona Redevelopment and Proposed Land Exchange Project supports the management activities and direction contained in the Merced River Plan (e.g., Wild and Scenic Rivers Act Section 7 determination, River Protection Overlay, management zoning

prescriptions) to address user capacity, protection and enhancement of Outstandingly Remarkable Values, and management of park resources, visitor use, and facilities. However, the private owned sector of the land is not subject to the VERP framework.

7 GROWTH-INDUCING CHARACTERISTICS

7.1 METHODOLOGY

According to the State CEQA Guidelines §15126.2(d), an environmental impact report (EIR) must discuss the growth-inducing impacts of a proposed action. Specifically, these guidelines state that the EIR shall:

Discuss ways in which the proposed action could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring the construction of new facilities that could cause significant environmental effects. Also discuss characteristics of some projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Growth-inducing impacts result from a project that directly or indirectly fosters additional economic or population growth or construction of additional housing. The word “foster” means to promote or encourage. Fostering of growth can occur when an obstacle to growth is removed, such as the expansion of infrastructure that resolves growth-constraining capacity problems. The State CEQA Guidelines do not include any distinction between planned and unplanned growth for purposes of considering whether a project fosters additional growth. Therefore, for purposes of this EIR, to reach the conclusion that a project is growth inducing, as defined by CEQA, the EIR must find that it would foster (i.e., promote or encourage) additional growth in economic activity, population, or housing, regardless of whether the growth is already approved by and consistent with local plans. The conclusion is a “yes/no” or “pass/fail” test and does not assume that induced growth is beneficial or detrimental, consistent with §15126.2(d) of the State CEQA Guidelines.

If the EIR determines that a project is growth inducing, the next question is whether that growth may cause significant adverse effects on the environment. Environmental effects resulting from induced growth, i.e., growth-induced effects, fit the CEQA definition of “indirect” effects in §15358(a)(2) of the State CEQA Guidelines. These indirect, or secondary, effects of growth may result in significant environmental impacts. CEQA does not require that the EIR speculate unduly about the precise location and site-specific characteristics of significant, indirect effects caused by induced growth, but a good-faith effort is required to disclose what is feasible to assess. Potential secondary effects of growth could include consequences—such as conversion of open space to developed uses, increased demand on community and public services and infrastructure, increased traffic and noise, degradation of air and water quality, or degradation or loss of plant and wildlife habitat—that are the result of the growth fostered by the project.

If significant, indirect environmental effects of growth may occur, the final question is whether those effects have already been considered and mitigated, or overridden if unavoidable, in a completed CEQA process, or whether they instead need to be disclosed and analyzed in the proposed action's EIR. If the induced growth is consistent with an approved general plan or community plan for the area, and a CEQA document on that plan adequately addresses the effects of growth in the plan, the environmental effects of growth induced by the proposed action have already been evaluated. In this case, the EIR for the proposed action can refer to the completed CEQA document for the impact analysis and need not evaluate it in detail again. A project that would induce growth that is not consistent with general or community plans could indirectly cause additional significant environmental impacts beyond those evaluated in the earlier CEQA document on the plan. In this case, the EIR for the proposed action would need to disclose and evaluate potential additional significant effects and propose mitigation for those effects, if feasible.

7.1.1 COMPONENTS OF GROWTH

The timing, magnitude, and location of land development and population growth in a community or region are based on various interrelated land use and economic variables. Key variables include regional economic trends, market demand for residential and nonresidential uses, land availability and cost, the availability and quality of transportation facilities and public services, proximity to employment centers, the supply and cost of housing, and regulatory policies or conditions. Because the general plan of a community defines the location, type, and intensity of growth, it is the primary means of regulating development and growth in California.

7.2 POSSIBILITY OF GROWTH INDUCEMENT ASSOCIATED WITH THE PROPOSED ACTION

Means by which a project may induce growth include creating jobs that attract economic or population growth to the area, promoting the construction of homes that would bring new residents to the area, or removing an existing obstacle that impedes growth in the area.

The proposed action is a self-contained project. Employment and housing related to the camp is, and would be, provided on-site as part of the proposed redevelopment. Transient occupants of the camp come from outside the Wawona vicinity, stay at the facilities within Camp Wawona, and return home. Consequently, the proposed action would not directly induce housing growth in the project vicinity. There is a possibility that the proposed improvements to the camp facilities may induce a demand for the development of more facilities like Camp Wawona in the area. However, the proposed action does not entail developing a completely new camp, but rather redeveloping the existing camp. Therefore, it is assumed that any pressure that the existence of the camp may cause on inducing further development is already present. In addition, development in Wawona is strictly guided by land use and management plans approved and implemented jointly by Yosemite National Park and the County of Mariposa, and these plans do not allow development of this sort in the vicinity. Under the proposed action, "church" or "recreational" camps comparable to Camp

Wawona would be allowed within the Mountain Residential zone. Conditions under which future proposals for similar development proposals would be considered would be defined within the town plan. The possibility that the proposed action would induce growth in housing or boarding facilities is less-than-significant.

There is a possibility that the proposed action may induce a small amount of economic growth to the area. By slightly enlarging total daily capacity in the camp and gearing the redevelopment to further attract groups of adults to visit in the off-season, the proposed action may entice additional numbers of people to visit the area, bringing a small amount of economic growth. The proposed relocation and improvements to the existing facilities may bring an economic growth to the camp itself, but the environmental effects of this potential increase are analyzed elsewhere within each subsection of this document. Given the small increase in total beds on-site, the self-contained nature of the camp, and the relatively small anticipated increase in the number of off-season visitors to the camp, the possibility of the proposed action inducing economic growth is less-than-significant.

There is a possibility that the proposed action may induce a small increase in the temporary population and jobs in the area by providing accommodations for additional visitors and possibly additional camp staff. However, these increases are confined to the project site and the environmental effects of these potential increases are analyzed elsewhere in this document. In addition, implementing the proposed action would result in a temporary increase in jobs and population related to construction, which could increase demand for local services and housing. These temporary increases are not expected to be significant because the number of people associated with the short-term construction activities does not represent a substantial increase to those already seasonally present in the area. The proposed action does not provide for or induce a population or job growth elsewhere in the vicinity.

The proposed action would not remove any existing obstacles that impede growth in the area. The proposed General Plan Amendment would approve the existing, non-conforming uses of Camp Wawona, but no infrastructure improvements, demands on public services, or land use plan changes are proposed that would facilitate growth in Wawona that is currently hindered by these types of restrictions. The analysis within this EIR includes existing and proposed future conditions at the camp, whether or not those conditions are compatible with local planning documents. Therefore, amendment of allowable land uses would not substantially change the existing capacity at Camp Wawona.

All of the above growth inducing effects would be less-than-significant; therefore, the proposed action would result in less-than-significant secondary environmental impacts.

8 CONSULTATION AND COORDINATION

8.1 COMPLIANCE HISTORY

An overview of environmental compliance documents completed pursuant to the National Environmental Policy Act that relate to the Camp Wawona Project is presented below, in chronological order:

- ▶ The Merced Wild and Scenic River Comprehensive Management Plan (Merced River Plan) applies seven management elements to prescribe desired future conditions, typical visitor activities and experiences, and park facilities and management activities allowed in the river corridor. The Merced River Plan applies to any project that is within the Wild and Scenic River boundary or would affect the Outstandingly Remarkable Values or free-flowing condition of the river.
- ▶ The National Park Service developed and approved the Yosemite Valley Plan to implement the goals of the 1980 General Management Plan in Yosemite Valley. The approved Yosemite Valley Plan is designed to meet the resource preservation and visitor experience goals in Yosemite Valley and calls out specific actions to meet these goals.

8.2 SCOPING HISTORY

The County and the National Park Service retained conducted scoping to help identify issues and concerns related to the proposed action. The County and the National Park Service invited the public to attend a Public Scoping Meeting on December 14, 2002 in the town of Wawona, and to submit written comments on the proposed planning, design, construction, and environmental effects of this project. The period for submitting comments during the scoping period was closed on March 21, 2003. The Mariposa County website (mariposacounty.org) provides current information on the project for public use.

During the public scoping period, 22 written comments were received. All comments were reviewed and analyzed for specific requests and common themes. Based on scoping comments and applicable federal law, the National Park Service determined that an environmental assessment (and not an environmental impact statement) was the appropriate level of NEPA compliance for the Camp Wawona Redevelopment and Proposed Land Exchange Project. The County had previously determined that an Environmental Impact Report was the appropriate document under CEQA. Public comments generated through the scoping process were used in the alternatives development phase and in the analysis provided in this document.

8.3 COORDINATION

8.3.1 U.S. FISH AND WILDLIFE SERVICE

Section 7(c) of the Endangered Species Act of 1973, as amended, requires that federal agencies consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat. The National Park Service requested a list of federally listed endangered and threatened species that may be present in the Wawona area in April 2003. The species list was received from the U.S. Fish and Wildlife Service on April 11, 2003 (see Appendix B), and was used as the basis for the special-status analysis in this environmental assessment (see Table 4.4-1). Consultation with the U.S. Fish and Wildlife Service will continue, as defined by Section 7 of the Endangered Species Act, as environmental compliance for the Camp Wawona Redevelopment and Proposed Land Exchange Project.

8.3.2 CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

Yosemite National Park initiated consultation with the California State Historic Preservation Officer (SHPO) and compliance with Section 106 of the National Historic Preservation Act (NHPA). This consultation is being carried out in accordance with stipulations IV.A and IV.B of the 1995 Programmatic Agreement Among the National Park Service (U.S. Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (1995 PA), and stipulation VII.C(2) of the 1999 Programmatic Agreement among the National Park Service at Yosemite, the California State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation regarding Planning, Design, Construction, Operations and Maintenance, Yosemite National Park, California (1999 PA). Pursuant to Stipulation VI of the Programmatic Agreement, the review process for Section 106 of the NHPA is being conducted in conjunction with the NEPA review process. The National Park Service provided written notice to the SHPO in July 2003 (see Appendix B) regarding the proposed undertaking and will continue consultation with SHPO in regards to avoidance and minimization of adverse effects to historic properties.

Stipulation IV.B(5) of the 1995 PA provides for in-house Section 106 review at Yosemite for acquisition of lands for park purposes, including additions to existing parks. There is no similar provision for disposal of park-owned lands. Therefore, Yosemite National Park has determined that the proposed land conveyance is an undertaking with potential to affect historic properties that requires consultation with the California SHPO.

The area of potential effects is situated within the Wawona Archaeological District, which has been determined by the Keeper as eligible for listing on the National Register of Historic Places (NRHP). To date, limited literature research and minimal surface reconnaissance have been conducted for project site. Although there are no recorded archaeological sites on either of the parcels, in consideration of the recorded resources in the surrounding environs and the NRHP eligibility status, it is possible that unrecorded archaeological deposits are present on both private and public parcels.

An inventory and evaluation of architectural resources (EDAW 2003) was prepared for the camp property in June 2003. The report provides the evaluation of twelve resources within the Camp Wawona complex that were more than 45 years old. These buildings were evaluated in compliance with applicable sections of the NHPA and the NRHP criteria (36 CFR 60.4). In addition, these resources were evaluated for significance using the criteria outlined in California Public Resources Code 5024.1 and in accordance with CEQA Guidelines §15064.5.

Based on this evaluation, none of the architectural resources evaluated at Camp Wawona appear to be eligible for the NRHP or the California Register of Historical Resources based upon a lack of significant association, as well as not representing principle sources of important information. Additional consideration of potential historic properties (including cultural landscapes and traditional cultural properties) will be conducted prior to approval of land exchange documents by the National Park Service.

8.3.3 AMERICAN INDIAN CONSULTATION

The National Park Service initiated American Indian consultation in 2000 with the seven tribes having cultural association with Yosemite. The North Fork Mono Rancheria requested a tour of the properties to be exchanged and this tour was conducted in June 2000; the tribe had no comment at that time. Consultation continued with the American Indian Council of Mariposa County, Inc. (a.k.a. Southern Sierra Miwuk Nation) in April 2003. The Southern Sierra Miwuk, the Northfork Mono Rancheria and the Chukchansi Tribal Government are the three groups most closely associated with the Wawona area, and were included in the list of recipients of the July 31, 2003 SHPO letter.

9 LIST OF PREPARERS

EDAW

Curtis Alling.....	Principal-in-Charge
Steve Heipel.....	Project Manager
Traci O'Brien.....	Assistant Project Manager, Public Utilities and Services
Steven Huang.....	Land Use
Jeanette Winter.....	Land Use, Glossary and Acronyms
Leo Edson.....	Wildlife
Petra Unger.....	Botany and Wetlands
Kurt Legleiter.....	Air Quality and Noise
Charlane Gross.....	Cultural Resources
Amy Meyer.....	Visual Resources, Hazardous Materials, Wild and Scenic River Act
Jeff Lafer.....	Hydrology, Water Quality, Geology, Soils
Misa Ward.....	Botany
Kim Fettke.....	Wildlife, Growth-inducing Impact
Honey Walters.....	Air Quality
Angel Tomes.....	Historic Architecture
Lisa Clement.....	GIS
Elizabeth Cruz.....	GIS
Brian Perry.....	Graphics
Lorrie Jo Williams.....	Graphics
Gayiety Hasbrouck.....	Word Processing, Document Production
Joan McHale.....	Word Processing, Document Production

KDANDERSON

Ken Anderson.....	Traffic and Transportation
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10 GLOSSARY AND ACRONYMS

10.1 GLOSSARY OF TERMS

100-year floodplain: The area along a river corridor that would be covered by waters during a 100-year flood event. A 100-year flood event has the probability of occurring 1% of the time during any given year. If a 100-year flood event occurs, the following year will still have the same probability for occurrence of a 100-year event. For the purposes of this document, the 100-year floodplain also includes wetlands and meadows associated with the hydrologic and ecological processes of the river.

A-weighted noise level (dBA): Noise intensity as measured with devices that have the same sensitivity to sound frequencies as the human ear.

Action alternative: An alternative that proposes a change to existing conditions or current management direction. The environmental consequences of an action alternative are analyzed in relation to the No Action Alternative. *Also see* No Action Alternative.

Affected environment: The existing biological, physical, cultural, social, and economic conditions of an area that are subject to direct or indirect changes as a result of actions under consideration.

Air quality: A measure of health and visibility-related characteristics of air, often derived from quantitative measurements of the concentrations of specific injurious or contaminating substances.

Alluvial: An adjective referring to alluvium, which are sediments deposited by erosional processes, usually by flowing water (i.e., streams and rivers).

Alluvium: A general term for clay, silt, sand, gravel, or similar unconsolidated rock fragments or particles deposited during comparatively recent geologic time by a stream or other body of flowing water.

Alternatives: Sets of management elements that represent a range of options for how, or whether to proceed, with actions that accomplish an agency's objectives. An environmental analysis considers the potential environmental and social impacts of the range of alternatives presented.

Ambient noise: The existing sounds at a given location coming from all sources, both mobile and stationary, and near and far.

Average level (L_{eq}): The constant sound level for a specific measurement period that has the same total sound energy as the actual varying sound levels recorded over the period.

Background noise: The all-encompassing sound associated with a given environment at a specified time, usually a composite of sound from many sources and directions. Background noise remains in a given location in a given situation when all uniquely identifiable, discrete sound sources are eliminated, rendered insignificant, or otherwise not included.

Bank: The area below the ordinary high water mark in a river or stream. The ordinary high water mark is defined as the 2.33-year flood by the U.S. Army Corps of Engineers.

Basin: Refers to a drainage basin. A region or area bounded by a drainage divide and occupied by a drainage system. Specifically, an area that gathers water originating as precipitation and contributes it to a particular stream channel or system of channels. Synonym: watershed.

Batholith: Refers to a very large body of plutonic rock. The Sierra Nevada batholith comprises several smaller plutons that represent the repeated intrusions of granitic magma. From the Greek bathos, deep, and lithos, rock.

Bed (natural): Refers to the relatively flat or level bottom (substrate) of a body of water, as in a lakebed or riverbed.

Bed (man-made): The number of bed spaces assigned to people in a given location. Beds can be contained in a multi-room house, a dormitory, or a single-room unit. At Camp Wawona, one bed holds one person.

Bed and Bank: The area below the ordinary high-water mark in a river or stream. The ordinary high-water mark is defined by the U.S. Army Corps of Engineers as the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area.

Bedload: Material (e.g., sand, gravel, and cobbles) carried by a river. It is typically suspended in the water column with high enough flow velocities, and then deposited when flow velocities slow.

Best Management Practices: Effective, feasible (considering technological, economic, and institutional constraints) conservation practices and land- and water-management measures that avoid or minimize adverse impacts to natural and cultural resources. Best Management Practices may include schedules for activities, prohibitions, maintenance guidelines, and other management practices.

Biodiversity: Or biological diversity, includes genetic diversity within species, species diversity within a community, and diversity in a full range of biological communities. An area is considered biologically diverse when it includes rich and stable populations of native species that are naturally distributed across the landscape.

Biological community: An association of plants and animals in a region dominated by one or more prominent species or by a physical characteristic (e.g., California black oak community).

Biota: All plants, animals, and microscopic life forms that make up a biological community or region.

Biotic: Of or produced by living things; composed of plant, animal, or microscopic life forms.

Boundaries: The areas that receive protection under the Wild and Scenic Rivers Act. Boundaries include an average of not more than 320 acres of land per mile, measured from the ordinary high-water mark on both sides of the river.

Braided stream system: A stream pattern that is characterized by the division of water flow into more than one channel. A basic characteristic of this pattern is the diversion of a single trunk channel into a network of interconnected branches and the formation of interspersed islands.

California black oak woodland: A vegetation community dominated by California black oak (*Quercus kelloggii*). Other species that may be present include canyon live oak, California buckeye, Douglas-fir, incense-cedar, and ponderosa pine. The canopy can be continuous, intermittent, or savanna-like. Shrubs may or may not be common. Ground layer vegetation is sparse or grassy (Sawyer 1995).

California Wilderness Act of 1984: A federal law that designated a number of additional wilderness areas in California, including those in Yosemite National Park.

Cambium: A thin layer of cells between the wood and bark in most vascular plants; the cells increase by division and differentiate to form new wood or bark.

CEQ: The President's Council on Environmental Quality (CEQ) was established by the National Environmental Policy Act (NEPA). The council's mission is to oversee and develop national environmental policy.

CEQ Regulations: The Council on Environmental Quality (CEQ) was established by the National Environmental Policy Act (see NEPA) and given the responsibility for developing federal environmental policy and overseeing the implementation of NEPA by federal agencies.

Classifications: The status of rivers or river segments under the Wild and Scenic Rivers Act ("Wild," "Scenic," or "Recreational"). Classification is based on the existing level of access and human alteration of the site.

Colluvial soils: Loose earth material (such as rock fragments, sand, etc.) that accumulates on steep slopes or at the base of steep slopes through the action of gravity.

Community: When used in a social or political context, refers to the group of people living in a particular area. When used in a biological context, refers to a group of interacting organisms belonging to a number of different species that occur in the same habitat. *Also see* Biological community.

Comprehensive management plan: A plan to protect and enhance a Wild and Scenic River. The Merced River Plan is the National Park Service's comprehensive management plan for segments of the Merced River corridor under its jurisdiction.

Conditional Use Permit: A discretionary permit issued by the County and, in Section 35, by the National Park Service, entitling the holder to develop a use listed as “conditional” in the Land Development Code. Conditional use permits normally contain mitigation measures and project implementation conditions to ensure compliance with General Plan, Specific Plan, and other County development regulations. A conditional use permit is a property privilege.

Connectivity: The degree to which physical connections are maintained between large areas of habitat and patches of habitat, and between different types of habitat. Connectivity increases biodiversity and enhances reproduction and survival of species. *Also see* Habitat fragmentation.

Cultural landscape: A geographic area reflecting human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.

Cultural resources: Properties such as landscapes or districts, sites, buildings, structures, objects, or cultural practices that are usually greater than 50 years of age and possess architectural, historic, scientific, or other technical value. By their nature, cultural resources are non-renewable.

Cumulative impacts: Effects on the environment that result from the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or non federal) or person undertakes such actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

dba: *See* decibel (dba)

Day-Night Average (DNL): An average of daytime and nighttime noise levels with an adjustment that takes into consideration the greater need for quiet at night.

Debitage: Waste flakes of stone created during the process of stone tool manufacturing. *Also see* Lithic.

Debris flow: Soil, rock, and other materials that are rapidly transported by water and gravity. Debris flows occur in a variety of environments throughout Yosemite, ranging from steep ephemeral and perennial stream channels below cliffs to nearly flat alluvial fans adjacent to the Merced River floodplain.

Decadent trees: Stands of trees with greatly reduced growth, usually occurring as one of three types: (1) over-mature trees nearing end of normal life, (2) younger trees limited by site conditions such as soil deficiencies, and (3) overcrowding due to exclusion of natural and cultural fires.

Decibel (dBA): A unit of measure of sound intensity, with dBA being weighted toward sound frequencies more easily perceived by the human ear..

Decompaction: A natural resource restoration technique that includes loosening or breaking up unnaturally compacted soils to facilitate water movement and root growth.

Degradation (natural resources): Refers to negative impact(s) to natural resources or natural processes. The impact may be singular or cumulative; the extent may be local or ecosystem-wide. The term degradation is used broadly and may refer to: reduction in habitat size, reduction in extent of plant populations, declining species vigor exhibited as reduced population numbers, reduced reproductive success, increased mortality rates, and/or decreased percent of available habitat utilized.

Ecological restoration: See Restoration (natural).

Ecosystem: An ecosystem can be defined as a geographically identifiable area that encompasses unique physical and biological characteristics. It is a system that involves the interaction of organisms with their physical environment.

Ecotone: A transition zone between different habitat types, such as the area between meadows and California black oak woodlands.

Emergent wetland: A wetland characterized by frequent or continual surface water inundation, dominated by herbaceous plant species rooted underwater and emerging into air (e.g., cattails, rushes).

Employee bed: Refers to the number of bed spaces assigned to employees in a given location. An employee bed could represent a multi-room house, a dormitory, or single-room unit. For example, a single-family house dedicated to one employee is considered to be one employee bed, regardless of the number of family members living in the same residence.

Endangered species: See Threatened and endangered species.

Energy equivalent: See Average level (L_{eq}).

Environmental assessment (EA): A public document required under the National Environmental Policy Act (NEPA) that identifies and analyzes activities that might affect the human and natural environment. An environmental assessment is a concise public document that provides sufficient evidence and analysis for determining whether to prepare an EIS, aids an agency's compliance with NEPA when no EIS is necessary, and facilitates preparation of an EIS when one is necessary.

Environmental consequences: A section of an environmental impact statement that is the scientific and analytic basis for comparing alternatives. This discussion includes the environmental effects of the alternatives, any adverse effects that cannot be avoided, and short-term, long-term and cumulative effects. These environmental effects include ecological, aesthetic, historical, cultural, economic, and social (Bass and Herson 1993).

Environmental Impact Statement (EIS): A detailed statement required by the National Environmental Policy Act (NEPA) when an agency proposes a major action that significantly affects the quality of the human environment. This document describes and analyzes the activities that might affect the human environment.

Environmental justice: Ensuring the rights of low-income people and communities of color to experience and enjoy clean and healthy environments. Executive Order 12898 requires that the National Park Service ensures that its programs, policies, and activities do not exclude, discriminate, or deny persons because of their race, color, or national origin.

Exotic species: *See* Non-native species.

Facilities: Refers to buildings, houses, campgrounds, picnic areas, visitor-use areas, operational areas, and associated supporting infrastructure such as roads, trails, and utilities.

Facultative wetland species: Plant species that can, but do not always, occur in wetlands. Facultative species indicate possible wetland conditions; further study of other wetland indicators (e.g., soils and inundation patterns) may be warranted.

Finding of No Significant Impact (FONSI): The public document describing the decision made on selecting the "preferred alternative" in an environmental assessment. *See* "environmental assessment."

Floodplain: Land on either side of a stream or river that is submerged during floods, unless that land is protected artificially.

Fluvial: Of or pertaining to a river. Fluvial is a technical term used to indicate the presence or interaction of a river or stream within an area or landform.

Footprint: The land area covered or occupied by a function or structure.

Free-flowing condition: Existing or flowing in natural condition without impoundment, diversion, straightening, riprapping, or other modification of the waterway (as defined in the Wild and Scenic Rivers Act - 16 United States Code 1286 [b]).

Free-flowing river: A body of water existing or flowing under natural conditions without impoundments, diversions, straightening, riprapping, or other modification of the waterway (as defined in the Wild and Scenic Rivers Act - 16 USC 1286 [b]). *Also see* Riprap.

Fuel loads: The quantities of burnable, wildland fire fuels, normally expressed in tons per acre. The exclusion of natural and cultural fires has resulted in unnaturally high and hazardous fuel loads in many forested areas making management by prescribed fire unsafe.

Geologic hazards: Natural geologic processes (i.e., rockfall) that occur or could potentially occur in locations that present a threat to humans or developed areas.

Geographic information system (GIS): A unique assemblage of hardware, software, and personnel that integrates digital databases, spatial technologies, and analytical methods in order to capture, store, edit, analyze, and display geographic data.

Geomorphic: Refers to the form or shape of the earth, or the shape of features on the earth's surface.

Geomorphology: Geologic study of the configuration and evolution of landforms.

Glacial till: Unconsolidated mixtures of clay, silt, sand, and gravel deposited directly by and underneath a glacier without being reworked by melt-water.

Glaciation: A collective term for geologic processes of glacial activity, including erosion, deposition, and the resulting effects of such action on the earth's surface.

Grader: A piece of heavy equipment used to level or smooth road or other surfaces to the desired gradient.

Granitic rocks: Igneous rocks (intrusive magma) that have cooled slowly below the earth's surface, typically consisting of quartz, feldspar, and mica. In contrast to granitic rocks, if magma erupts at the earth's surface, it is referred to as lava. Lava, when cooled, forms volcanic rocks.

Groundwater: All water found below the surface of the ground. *Also see* Surface water.

Groundwater recharge: The process involved in the absorption and addition of surface water to the zone of saturation or aquifer.

Habitat fragmentation: The partitioning of larger habitats into smaller more isolated parcels, usually as a result of development. Fragmentation of habitat can negatively affect the abundance and diversity of plants and animals in an area.

Hazard trees: "...any tree...either alive or dead, which due to outwardly visible defects could fall down (in part or in entirety) and strike a person or property within any designated portion of a development zone." (WR-093)

Hazardous material: A substance or combination of substances that, because of quantity, concentration, or physical, chemical, or infectious characteristics, may either: (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating illness, or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, used, or disposed of.

Hazardous waste: Hazardous materials that no longer have practical use, such as substances that have been discarded, spilled, or contaminated, or that are being temporarily stored prior to proper disposal.

Hazardous Waste Management Plan: The Hazardous Waste Management Plan is a guide for the reduction, treatment, recycling, and disposal of hazardous waste generated

Headwaters: The point or area of origin for a river or stream.

Herbaceous: Refers to plants that lack a woody structure.

Highly valued resources: A set of natural and cultural resources that are the park's highest priority for protection and restoration. Highly valued resources in Yosemite Valley are those that make up the Merced River ecosystem (Merced River, wetlands, riparian, and meadow communities), California black oak woodlands, sensitive wildlife habitat, rich soil areas, National Historic Landmarks, and important archeological sites. Highly valued resources are graphically portrayed in Vol. Ic, plate C.

Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER): An architectural and engineering documentation program that produces a thorough archival record of buildings, engineered structures, and cultural landscapes significant in American history and the growth and development of the built environment.

Historic character: The sum of all visual aspects, features, materials, and spaces associated with the historic nature of a site, structure, or landscape.

Historic district: A geographically definable urban or rural area, possessing a significant concentration, linkage, or continuity of sites, landscapes, structures, or objects united by past events or aesthetically by plan or physical developments. A district may also be composed of individual elements separated geographically but linked by association or history.

Historic topography: The physical features and contours of a place or region as they existed during historic time.

Hotel: A structure containing more than eighteen lodging rooms, as defined in the 1992 *Concession Services Plan/EIS*.

Housing actions: The component of alternatives that describes the potential locations, types, and numbers of employee housing. *Also see* Bed.

Housing support facilities: Amenities required by a typical residential community (i.e., post office, food preparation and service, recreational facilities, barber shop, child care, etc.).

Hydric soils: Soils that are characterized by an abundance of moisture, periodically producing anaerobic conditions.

Hydrology: The science dealing with the properties, distribution, and circulation of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere.

Hydromorphic classification: A wetland classification system that distinguishes wetland features based on position in the landscape, geomorphic setting, and hydrodynamics (National Research Council 1995).

Hydrophilic: Refers to soils that have an affinity for water, usually soils with high clay content.

Hydrophyte: Any plant growing in water or in a substrate that has an abundance of moisture. Hydrophytes are typically found in wetland habitats.

Impacts: Effects, both beneficial and adverse, of an action on the human environment. Direct effects are those occurring at the same time and place as the action itself. Indirect effects occur later in time or are farther removed in distance from the action, yet are reasonably foreseeable.

Infrastructure: The various systems and facilities needed to support park operations and visitor services (e.g., sewer and water systems, electric systems, communication lines, roads and trails, and various support buildings).

Internal/external air pollution sources: Sources of air pollution either outside of a region or within a region; Yosemite Valley experiences air pollution from both sources: air pollution caused by motor vehicles within the Valley and air pollution originating in the San Joaquin Valley and moving into the Yosemite area.

Key Observation Point: A key observation point (KOP) is a point that represents an area located along major or significant travel corridors, trails, or near a residential area. A KOP represents one of these areas and typically will represent the visual character of the near-by area.

L_{eq}: *See* Average level (L_{eq}).

Liquefaction: A process by which water-saturated soils lose strength and liquefy during ground shaking events.

Lithic: Of or relating to stone or stone tools.

Lodging unit/room: Concessioner-operated facilities for overnight visitors. A lodging unit may be a single structure, such as a tent cabin, or a series of rooms grouped into larger motels or hotels. Lodging rooms in Yosemite are available at a range of prices that correspond to the type of structure as well as the amenities provided. *See* Cabin (lodging); Cottage; Hotel; Housekeeping unit; Motel. *Also see* Deluxe Lodging; Economy Lodging; Mid-scale Lodging; Rustic Lodging.

Management zone: A geographical area for which management directions or prescriptions have been developed to determine what can and cannot occur in terms of resource management, visitor use, access, facilities or development, and park operations. One of seven management elements prescribed in the Merced Wild and Scenic River Comprehensive Management Plan.

Mechanical treatment: The alteration of the landscape using hand implements, power tools, and heavy equipment.

Mitigation Measure: An activity that will avoid, reduce the severity of, eliminate, or compensate for an adverse environmental impact.

Mixed conifer zone: Plant communities consisting of a mix of conifers such as pine, fir, incense-cedar, and Douglas-fir. The zone includes lower montane, montane, and upper montane coniferous forests. California black oak and other hardwoods are common associates.

Montane: Of, relating to, or growing in the biogeographic zone of relatively moist cool upland slopes below the timberline, dominated by large coniferous trees.

National Environmental Policy Act (NEPA): The federal act that requires the development of an environmental assessment or environmental impact statement for federal actions that might have environmental, social, or other impacts.

National Historic Landmark: A district, site, building, structure, landscape, or object of national historical significance designated by the Secretary of the Interior under authority of the Historic Sites Act of 1935 and entered in the National Register of Historic Places.

National Register of Historic Places: The comprehensive list of districts, sites, buildings, structures, and objects of national, regional, state, and local significance in American history, architecture, archeology, engineering, and culture. This list is maintained by the National Park Service under authority of the National Historic Preservation Act of 1966.

Natural quiet: The absence of human-caused sounds.

Natural process: A collective term for processes, including hydrologic, geologic, biologic, and ecosystemic, that are not the result of human manipulation.

Natural resources: Features and values that include plants and animals, water, air, soils, topographic features, geologic features, paleontologic resources, natural quiet, and clear night skies.

Natural topography: The natural shape or contour of the land.

No Action Alternative: An alternative that continues current management direction. A no action alternative is a benchmark against which action alternatives are compared.

Non-native species: Species of plants or animals that do not naturally occur in a particular area and often interfere with natural biological systems. Also known as alien, introduced, or exotic species.

Non-point pollution sources: Pollutants that enter the environment from locations that generally are not contained. Examples of nonpoint sources are roadways, parking lots, and landscaped areas. Pollutants from these locations can include petrochemicals, heavy metals, and fertilizers.

Off-season: Refers to a period of year when Yosemite visitation is lowest, usually from late autumn to early spring. *Also see* Peak season.

Ordinary high water: The area along the river corridor that would receive floodwaters during an ordinary precipitation year (based on a 2.33-year flood).

Outstandingly Remarkable Values: Those resources in the corridor of a Wild and Scenic River that are of special value and warrant protection. Outstandingly Remarkable Values are the "scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values...that shall be protected for the benefit and enjoyment of present and future generations" (16 United States Code 1272).

Overnight visitor: Refers to visitors who spend the night in Yosemite Valley. This includes those that stay in lodging, campgrounds, and wilderness areas.

Overstory: The layer of foliage in a forest canopy.

Park partner: An organization that maintains a formal agreement with the National Park Service to provide visitor services in conjunction with Yosemite National Park or otherwise assist the National Park Service; examples include the Yosemite Institute, Yosemite Association, Yosemite Fund, and the Sierra Club (operates LeConte Memorial Lodge).

Particulate matter (PM₁₀ and PM_{2.5}): Particles with diameters of 10 microns or less (PM₁₀) or 2.5 microns or less (PM_{2.5}). Such particles can be inhaled into the air passages and the lungs and can cause adverse health effects. High levels of PM_{2.5} are also associated with regional haze and visibility impairment.

Peak season: Refers to a period of the year when park visitation is highest: broadly speaking, this includes late spring, summer, and early fall. *Also see* Off-season.

Pedestrian/stock trail: Mostly unpaved trails intended to accommodate both pedestrians and stock users. (Use of bicycles on unpaved trails is prohibited.)

Phase 1 Environmental Site Assessment: The purpose of a Phase 1 Environmental Site Assessment is to identify recognized environmental conditions in connection with the site, to the extent feasible pursuant to the processes prescribed in American Society for Testing Materials (ASTM) "Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process" (E1527-00) and the California Education Code.

Pluton: A general term applied to any body of intrusive igneous rock that originates deep in the earth. Named for Pluto, Greek god of the underworld.

Prescribed fire: Fires that are intentionally ignited under controlled conditions to meet management goals for natural resources and processes, wildland fire protection, and cultural resource preservation.

Prescription: A guideline that directs the management of a specific area by describing the type and intensity of activities, facilities, and park operations that can and cannot occur. See "management zone."

Preservation (cultural resource): The act or process of applying measures to sustain the existing form, integrity, and material of a historic structure, landscape, or object. Work may include preliminary measures to protect and stabilize the property, but generally focuses on the ongoing preservation, maintenance, and repair of historic materials and features rather than extensive replacement and new work.

Preservation (natural resource): The act or process of preventing, eliminating, or reducing impacts to natural resources and natural processes.

Protected species: *See* Threatened and endangered species.

Protohistoric: Refers to a time immediately before written history.

Raptor: Bird of prey including falcons, hawks, and owls.

Redevelopment: A term that applies to areas that are currently developed, where all or part of the existing development is removed and replaced, modified, or adaptively reused.

Rehabilitation (cultural resources): The act or process of making possible an efficient, compatible use for a historic structure or landscape through repair, alterations, and additions while preserving the portions or features which convey the historical, cultural, and architectural values. *Also see* Adaptive use.

Rehabilitation (natural resources): All activities conducted to improve the quality or biologic function of an impacted natural resource. The term rehabilitation connotes a less extensive process than restoration. Site impacts may preclude a full restoration, but project work is undertaken to enhance the extent or function of natural processes.

Resilient soil: Types of soil that can withstand certain levels of human impact (e.g., foot traffic) without changing its natural character and biological function.

Resilient ecosystem: Ecosystem types that have the ability to rebound from negative impacts to resources and natural processes with negligible or minimal long-term effects.

Restricted access: During periods of high traffic congestion, some vehicles may be required to wait to gain entry to Yosemite Valley (and sometimes the entire park) for portions of the day, with the exception of those visitors who have lodging or camping reservations.

Restoration (cultural): The act or process of accurately depicting the form, features, and character of an existing historic structure, landscape, or object as it appeared at a particular period of time, by removing modern additions and replacing lost portions of historic fabric, paint, or other elements.

Restoration (natural): Work conducted to remove impacts to natural resources and restore natural processes, and to return a site to natural conditions.

Revegetation: Replacement or augmentation of native plants in an area largely or entirely denuded of vegetation.

Riparian areas: Areas that are on or adjacent to rivers and streams; these areas are typically rich in biological diversity (flora and fauna).

Riverine: Of or relating to a river. A riverine system includes all wetlands and deepwater habitats contained within a river channel.

River corridor: The area within the boundaries of a Wild and Scenic River (e.g., the Merced River corridor).

River Protection Overlay: A buffer area within and adjacent to the river that allows for the protection and restoration of natural and aquatic ecosystem processes. In Wawona, it includes the South Fork Merced River channel and extends 150 feet from the ordinary high water mark. One of seven management elements prescribed in the Merced Wild and Scenic River Comprehensive Management Plan.

Rockfall: Associated forms of mass movement such as rock avalanches, rockslides, debris slides, and debris flows (Wieczorek, et al. 1998).

Scarification: A restoration term meaning the decompaction or loosening of topsoil to allow for enhanced vegetative growth and absorption of moisture.

Section 35: The area on the South Fork of the Merced River, originally designated by the U.S. Geological Survey, that demarcates the "township of Wawona" and contains intermixed parcels of private and National Park Service lands under special management by the National Park Service and the County of Mariposa.

Sediment: A particle of soil or rock dislodged, transported, and deposited by surface runoff or a stream. The particle can range in size from microscopic to cobble stones.

Sheetflow: Flowing water that is not confined to a channel.

Snag: A snag is a dead tree that remains standing or leaning against another tree. Snags provide cavity habitats for a variety of wildlife species. Snags near trails or camping areas represent hazards which must be managed or removed.

Specific Plan: As established in the California Government Code, Specific Plans are separately adopted planning documents for precise development plans conforming with state statute.

State Scenic Highway System: The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A list of California's scenic highways and map showing their locations may be obtained from Caltrans' Scenic Highway Coordinators

Stewardship: The responsibility of caring for the park. This often grows from an understanding of and respect for the principles of the National Park System and the needs of the park's natural, social, and cultural environment.

Stock: This term generally refers to horses and mules used for riding or carrying packed supplies on established trails.

Succession: The process by which vegetation is either re-established following a disturbance or by which it initially develops in an unvegetated site. This term also refers to the entire process from initial colonization to the development of vegetation typical of that geographic area.

Surface water: Water that naturally flows or settles on top of natural landforms and vegetation, often as rivers, streams, lakes, ponds, and other bodies of water.

Terrestrial: Living on or growing from land.

Threatened and endangered species: Species of plants and animals that receive special protection under state and federal laws. Also referred to as "listed species" or "special-status species."

Traffic check station: A location where vehicle access is regulated; typically requires buildings, multiple traffic lanes, and staffing.

Transit bus: A mode of transportation that operates on a schedule along routes with established stops. Transit buses do not require daytime parking in Yosemite Valley, as they continuously pick up and drop off passengers along their established routes.

Understory: An underlying layer of vegetation, specifically the vegetative layer, and especially the trees and shrubs, between the forest canopy and the ground cover.

Upland community: The vegetation found where soil conditions are average to dry and where soils are only infrequently flooded or saturated. In Yosemite Valley, mixed conifer, California black oak, and live oak communities dominate uplands.

Visitor experience: The perceptions, feelings, and interaction a park visitor has in relationship with the environment. Within the context of the proposed alternatives, the Visitor Experience section describes general access, facilities, visitor services, interpretation and orientation, and recreational opportunities. Other elements also contribute to the quality of the visitor experience, such as the condition of natural and cultural resources, air quality, transportation, and noise.

Watershed: The region draining into a river, river system, or body of water.

Wetland: Areas that are inundated by surface or groundwater with a frequency sufficient to support, under normal circumstances, vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

Wetland: Wetlands are defined by the U.S. Army Corps of Engineers (Code of Federal Regulations, Section 328.3[b], 1986) as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wild and Scenic Rivers: Those rivers receiving special protection under the Wild and Scenic Rivers Act.

Wild and Scenic Rivers Act: The Wild and Scenic Rivers Act, (Pub. L. 90-542 as amended; 16 U.S.C. 1271-1287) established a method for providing Federal protection for certain of our country's remaining free-flowing rivers, preserving them and their immediate environments for the use and enjoyment of present and future generations. Rivers are included in the system so that they may benefit from the protective management and control of development for which the Act provides.

Wilderness: Areas protected by provisions of the Wilderness Act of 1964. These areas are characterized by a lack of human interference in natural processes; generally, there are no roads, structures, installations, and the use of motorized equipment is not allowed.

Zoning District: An area defined by ordinance to which certain regulations of the County of Mariposa Land Development Code are applied.

10.2 ACRONYMS

AADT	average annual daily traffic
AASHTO	American Association of State Highway and Transportation Officials
ACHP	Advisory Council on Historic Preservation
ADAM	Air Quality Data
ADT	average daily traffic
AQAP	Air Quality Attainment Plan
ARM	Archaeological Resource Management
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CalEPPC	California Exotic Pest Plant Council
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCIC	Central California Information Center
CCR	California Code of Regulations
CDF	California Department of Forestry
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CHABA	Committee of Hearing, Bio-Acoustics, and Bio-Mechanics
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent levels
CNPS	California Native Plant Society

CO	carbon monoxide
CRHR	California Register of Historical Resources
CUBC	California Uniform Building Code
CWA	Clean Water Act

dB	Decibels
dBA	"A"-weighted decibels
DTSC	Department of Toxic Substances Control

EA	Environmental Assessment
EIR	Environmental Impact Report
EP	Environmental Protection
ESA	Endangered Species Act

FCAA	Federal Clean Air Act
FP	Floodplain

HCM	Highway Capacity Manual
HMMP	Hazardous Materials Management Plan
Hz	Hertz

in/yr	inches per year
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JCFHD	John C. Fremont Hospital District
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KOP	key observation point
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Ldn	day-night average noise level
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Leq	energy equivalent level
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LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MCAB	Mountain Counties Air Basin
MCAPCD	Mountain Counties Air Pollution Control District
MCPUD	Mariposa County Public Utilities District
MCUSD	Mariposa County Unified School District
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
mph	miles per hour
MR	Mountain Residential
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Administration
NHPA	National Historic Preservation Act
NO₂	nitrogen dioxide
NO₃	nitric oxide
NOI	Notice of Intent
NO_x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NRPH	National Register of Historic Places
O₃	ozone
OSHA	Occupational Safety and Health Administration
PA	Programmatic Agreement

Pb	lead
PL	Public Law
pm	particulate matter
PM₁₀	particulate matter, 10 microns or less in diameter
PM_{2.5}	particulate matter, 2.5 microns or less in diameter
ppm	parts per million
ppv	peak particle velocity

RCRA	Resource Conservation and Recovery Act
ROG	reactive organic gas
RPO	River Protection Overlay
RPZ	root protection zone
rq	reportable quantity
RWQCB	Regional Water Quality Control Board

SEMS	Standardized Emergency Management System
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO₂	sulfur dioxide
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board

TRB	Transportation Research Board
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UBC	Uniform Building Code
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

USGS	United States Geological Survey
WTP	Wawona Town Plan
WTPASP	Wawona Town Planning Area Specific Plan
YARTS	Yosemite Area Regional Transportation System

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appendix A

REGULATIONS AND POLICIES

Appendix A: Regulations and Policies

This appendix describes the key regulations and policies that form the legal context for development of the Environmental Impact Statement/Environmental Assessment for the Camp Wawona Redevelopment and Proposed Land Exchange Project.

National Park Service Enabling Legislation

Act of June 30, 1864 (13 Stat. 325, 16 USC §48). This act authorizes a grant to California for the “Yosemite Valley,” and for land embracing the “Mariposa Big Tree Grove.” This tract was “to be held for public use, resort, and recreation” by the state of California, and to “be inalienable for all time.”

Act of August 25, 1916 (National Park Service Organic Act) (PL 64-235, 16 USC §1 et seq. as amended). On August 15, 1916, Congress created the National Park Service with the National Park Service Organic Act. This act, as reaffirmed and amended in 1970 and 1978, establishes a broad framework of policy for the administration of national parks:

The Service thus established shall promote and regulate the use of the Federal areas known as National Parks, Monuments, and Reservations by such means and measures as to conform to the fundamental purpose of the said Parks, Monuments, and Reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

General Legislation and Regulations

Architectural Barriers Act of 1968, PL 90-480, 82 Stat. 718, 42 USC §4151 et seq. This act establishes standards for design/construction or alteration of buildings to ensure that physically disabled persons have ready access to and use of such buildings. The act excludes historic structures from the standards until they are altered. All development proposed in the Lower Yosemite Fall Project must be consistent with this act.

Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR Parts 1500-1508). The Council on Environmental Quality regulations for implementing the National Environmental Policy Act (NEPA) establish the process by which federal agencies fulfill their obligations under the NEPA process. The Council on Environmental Quality regulations ascertain the requirements for environmental assessments and environmental impact statements that document the NEPA process. The Council on Environmental Quality regulations also define such key terms as “cumulative impact,” “mitigation,” and “significantly” to ensure consistent application of these terms in environmental documents. This Environmental Assessment was prepared as directed in the Council on Environmental Quality regulations.

Fish and Wildlife Coordination Act. The objective of the Fish and Wildlife Coordination Act is to provide that wildlife conservation receives equal consideration and is coordinated with other

features or water resources development programs. Sections 1 and 2 of the act mandate that fish and wildlife receive equal consideration with water resources development programs throughout planning, development, operation, and maintenance. Whenever a federal agency proposes to impound, divert, channelize, or otherwise alter or modify any stream, river, or other body of water for any purpose, the agency must first consult and coordinate its actions and projects with the U. S. Fish and Wildlife Service. This consultation and coordination process addresses ways to conserve wildlife resources by preventing loss of and damage to such resources as well as to further develop and improve these resources.

National Environmental Policy Act of 1970 (PL 91-190, 83 Stat. 852, 42 USC §4341 et seq.).

The NEPA process is intended to help public officials make decisions that are based on an understanding of environmental consequences and take actions that protect, restore, and enhance the environment. Regulations implementing NEPA are set forth by the Council on Environmental Quality. The NEPA process guides the overall planning process for the Lower Yosemite Fall Project Environmental Assessment.

Rehabilitation Act of 1973, Section 504. Section 504 of the Rehabilitation Act of 1973 is enforced by the Office of Civil Rights (OCR) under the guidelines of the Department of Education. This legislation protects the civil and constitutional rights of people with disabilities. It prohibits organizations which receive federal funds from discriminating against otherwise qualified individuals on the sole basis of a handicap.

Wild and Scenic Rivers Act of 1968 as amended (PL 90-542; 16 USC §§1271-1287). This act established the National Wild and Scenic Rivers System and designated the first Wild and Scenic Rivers. The act requires a comprehensive management plan for designated rivers and contains guidance for their management, particularly with regard to free-flowing condition and Outstandingly Remarkable Values. Section 3(a)(62) contains the language of the 1987 act that added the Merced River to the National Wild and Scenic Rivers System. All actions proposed by this project will protect and enhance the values that are recognized by the Merced Wild and Scenic River designation.

Wild and Scenic Rivers Guidelines, 1982. These guidelines were developed jointly by the U. S. Department of Agriculture and U. S. Department of the Interior, the two departments who manage designated rivers through their bureaus. The guidelines are intended to foster consistent interpretation and application of the Wild and Scenic Rivers Act.

Natural Resources Legislation

Bald Eagle Protection Act. No person within the United States, or any place subject to the jurisdiction thereof, shall possess, sell, purchase, barter, offer to sell, transport, export, or import at any time or in any manner any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof. The Secretary of the Interior can permit the taking, possession, and transportation of specimens thereof for scientific or exhibition purposes or for the religious purposes of American Indian tribes if the action is determined to be compatible with the preservation of the bald eagle or golden eagle.

Clean Air Act, as amended (PL Chapter 360, 69 Stat. 322, 42 USC §7401 et seq.). Section 118

of the Clean Air Act requires all federal facilities to comply with existing federal, state, and local air pollution control laws and regulations. The National Park Service works in conjunction with the Mariposa County Air Pollution Control District to ensure that all construction and demolition activities meet these requirements.

Federal Water Pollution Control Act (commonly referred to as the Clean Water Act) of 1977 (33 USC 1251 et seq.). The Clean Water Act provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation's waters. Section 404 of the act prohibits the discharge of fill material into navigable water of the United States, including wetlands, except as permitted under separate regulations by the U. S. Army Corps of Engineers and U. S. Environmental Protection Agency. The placement of fill in wetlands should be avoided if there are practicable alternatives.

California Endangered Species Act. The California Endangered Species Act expanded upon the original plant protection act and enhanced legal protection for plants and wildlife. The California Endangered Species Act parallels the policies of the Federal Endangered Species Act. The state legislation was written to protect state endangered and threatened plant and animal species whose continued existence in California is in jeopardy. The California Endangered Species Act and Sections 2050 and 2097 of the Fish and Game Code prohibit "take" of plant and animal species designated by the California Fish and Game Commission as either endangered or threatened.

California Fish and Game Code. Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time without permission by the California Department of Fish and Game. Section 3503 of the California Fish and Game Code affords protection to bird nests and birds of prey (orders Falconiformes or Strigiformes).

California Native Plant Protection Act. State listing of plant species began in 1977 with the passage of the Native Plant Protection Act. The act directed the California Department of Fish and Game to carry out the Legislature's intent to "preserve, protect, and enhance endangered plants in this state." The act gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. When the California Endangered Species Act was passed, it expanded upon the Native Plant Protection Act and enhanced legal protection for plants. To align with federal regulations, the California Endangered Species Act adopted the categories "threatened" and "endangered" species. It grandfathered all "rare" animals into the act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered.

Clean Water Act Amendments of 1987. The 1987 amendments to the act required that the U. S. Environmental Protection Agency establish regulations for the issuance of municipal and industrial stormwater discharge permits as part of the National Pollutant Discharge Elimination System. The final U. S. Environmental Protection Agency regulations were published in November 1990. These regulations apply to any construction activities that disturb more than 5 acres of land.

Endangered Species Act of 1973, as amended (PL 93-205, 87 Stat. 884, 16 USC §1531 et seq.). The Endangered Species Act protects threatened and endangered species, as listed by the U. S. Fish and Wildlife Service, from unauthorized take, and directs federal agencies to ensure that their actions do not jeopardize the continued existence of such species. Section 7 of the act defines federal agency responsibilities for consultation with the U. S. Fish and Wildlife Service and requires preparation of a Biological Assessment to identify any threatened or endangered species that is likely to be affected by the proposed action. The National Park Service initiated and maintained formal consultation with the U. S. Fish and Wildlife Service throughout the compliance process for the Camp Wawona Redevelopment and Proposed Land Exchange Project Environmental Assessment in order to meet obligations under the Endangered Species Act.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50 Code of Federal Regulation (CFR) Section 10.13. This act is an international treaty for the conservation and management of bird species that may migrate through more than one country and is enforced in the United States by the U. S. Fish and Wildlife Service. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50 CFR 20. The act was amended in 1972 to include protection for migratory birds of prey (raptors).

Porter-Cologne Water Quality Control Act (California Water Code, Section 13020). Under the authority of the Porter-Cologne Act and federal Clean Water Act, Regional Water Quality Control Boards act as regional agencies for the State Water Resources Control Board and are responsible for regional enforcement of water quality laws and coordination of water quality control activities. The regional board for the Yosemite area is the Central Valley.

Resource Conservation and Recovery Act, as amended (PL 94-580, 30 Stat. 1148, 42 USC §6901 et seq.). This act establishes a regulatory structure for the management of solid and hazardous waste from the point of generation to disposal. In particular, applicable provisions include those that address underground storage tanks and sites contaminated with elements identified under federal and state Resource Conservation and Recovery Act regulations.

Cultural Resources Legislation

Antiquities Act of 1906 (PL 59-209, 34 Stat. 225, 16 USC §432 and 43 CFR 3). This act provides for the protection of historic or prehistoric remains, “or any antiquity,” on federal lands. It protects historic monuments and ruins on public lands. It was superseded by the Archeological Resources Protection Act (1979) as an alternative federal tool for prosecution of antiquities violations in the National Park System.

Archeological Resources Protection Act of 1979 (PL 96-95, 93 Stat. 712, 16 USC §470aa et seq. and 43 CFR 7, subparts A and B, 36 CFR). This act secures the protection of archeological resources on public or Indian lands and fosters increased cooperation and exchange of information between private, government, and the professional community in order to facilitate the enforcement and education of present and future generations. It regulates excavation and collection on public and Indian lands. It requires notification of Indian tribes who may consider a site to have religious or cultural importance prior to issuing a permit. The act was amended in 1988 to require the development of plans for surveying public lands for archeological resources and systems for

reporting incidents of suspected violations.

National Historic Preservation Act of 1966, as amended (PL 89-665, 80 Stat. 915, 16 USC §470 et seq. and 36 CFR 18, 60, 61, 63, 68, 79, 800). The National Historic Preservation Act requires agencies to take into account the effects of their actions on properties listed in or eligible for listing in the National Register of Historic Places. The Advisory Council on Historic Preservation has developed implementing regulations (36 CFR 800), which allow agencies to develop agreements for consideration of these historic properties. In 1999, Yosemite National Park, in consultation with the Advisory Council, the California State Historic Preservation Officer, American Indian tribes and the public, developed a Programmatic Agreement for planning, design, construction, operations, and maintenance activities. This 1999 Programmatic Agreement provides a process for compliance with the National Historic Preservation Act, and includes stipulations for identification, evaluation, treatment, and mitigation of adverse effects for actions affecting historic properties. The National Park Service will follow stipulations of this Programmatic Agreement for all future planning and design projects. The Programmatic Agreement allows the National Park Service to implement standard mitigating measures for some actions, if the State Historic Preservation Officer and the public are notified and provided an opportunity to comment.

Native American Grave Protection and Repatriation Act (PL 101-601, 104 Stat. 3049, 25 USC §§3001-3013). This act assigns ownership or control of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony that are excavated or discovered on federal lands or tribal lands to lineal descendants or culturally affiliated Native American groups.

Executive Orders

Executive Order 11593: Protection and Enhancement of the Cultural Environment. This Executive Order instructs all federal agencies to support the preservation of cultural properties. It directs them to identify and nominate cultural properties under their jurisdiction to the National Register of Historic Places and to “exercise caution to assure that any federally owned property that might qualify for nomination is not inadvertently transferred, sold, demolished, or substantially altered.”

Executive Order 11988: Floodplain Management. This Executive Order requires federal agencies to avoid, to the extent possible, adverse impacts associated with the occupancy and modification of floodplains, and to avoid development in floodplains whenever there is a practical alternative. If a proposed action is found to be in the applicable regulatory floodplain, the agency shall prepare a floodplain assessment, known as a Statement of Findings.

Executive Order 11990: Protection of Wetlands. This Executive Order established the protection of wetlands and riparian systems as the official policy of the federal government. It requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.

Executive Order 13112: Invasive Species. This Executive Order prevents the introduction of invasive species and directs federal agencies to not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species. Actions

proposed in the Camp Wawona Redevelopment and Proposed Land Exchange Project include measures to prevent the introduction and spread of invasive species.

Department of the Interior - Director's Orders

Director's Orders provide guidance for implementing certain aspects of National Park Service policy. Copies of those that have been completed may be obtained by contacting the National Park Service Office of Policy or by accessing the National Park Service web site. The following Director's Orders may be relevant to the Environmental Assessment planning process.

Director's Order #1: The Directives System. The purpose of this director's order is to further refine the National Park Service Directives System. The Directives System is a three-level set of documents that give National Park Service managers and staff comprehensive guidance on National Park Service policy and required and/or recommended practices and procedures. The Directives System is the means by which the director delegates line and functional authorities and assigns responsibilities. It reflects the National Park Service's organizational values of teamwork, delegation to the most effective level, empowerment of employees, accountability, and reduction in overall paperwork.

Director's Order #2: Park Planning. This director's order revises and replaces the policies and guidance included in chapter 2 of the National Park Service Management Policies (1988) and the NPS-2 Planning Process Guideline (1982) as they relate to park planning. This director's order documents the decision-making processes that result in the goals and actions specific to each unit of the national park system and those units of the national trails system administered by the National Park Service. Park planning is a vital intermediary step that links servicewide planning and decision-making to park operations.

Director's Order #12: Conservation Planning, Environmental Impact Analysis and Decision-Making. Director's Order #12 provides the National Park Service's agency guidance on implementing the NEPA. The U. S. Department of the Interior produced its NEPA regulations as Part 516 of its departmental manual, and the National Park Service produced several NEPA handbooks. The last update, NPS-12, was issued in 1982. Director's Order #12 is an update and revision of NPS-12, and it supersedes the 1982 version. Although it is termed a handbook, most of the sections derive in whole or in part from the Council on Environmental Quality regulation or U. S. Department of Interior NEPA guidelines, giving them the force of law. Under the terms of the National Parks Omnibus Management Act of 1998, the "Secretary shall take such measures as are necessary to assure the full and proper utilization of the results of scientific study for park management decisions. In each case in which an action undertaken by the National Park Service may cause a significant adverse effect on a park resource, the administrative record shall reflect the manner in which unit resource studies have been considered." The development of alternatives, analysis of impacts, and incorporation of the best available information, coupled with identification of environmentally preferable courses of action as called for in Director's Order #12, are among the steps required in meeting this obligation to the public. The Camp Wawona Redevelopment and Proposed Land Exchange Environmental Assessment was developed consistent with Director's Order #12.

Director's Order #28: Cultural Resource Management. The National Park Service, as steward

of many of America's most important cultural resources, is charged to preserve them for the enjoyment of present and future generations. Management decisions and activities throughout the National Park System must reflect awareness of the irreplaceable nature of these resources. The National Park Service will protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with the policies and principles contained in the National Park Service Management Policies. The National Park Service will comply with the substantive and procedural requirements described in The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (USDOI 1983). Additionally, the National Park Service will comply with the 1995 Servicewide Programmatic Agreement with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers.

Director's Order #42: Accessibility for People with Disabilities in National Park Service Facilities, Programs, and Services. The director's order provides detailed guidance on providing the highest level of accessibility in the planning, construction, and renovation of buildings and facilities and in the provision of programs and services to the public and to National Park Service employees. It is the goal of the National Park Service to ensure that all people, including the estimated 54 million citizens with disabilities, have the highest level of accessibility that is reasonable to National Park Service programs, facilities, and services in conformance with applicable regulations and standards. A fundamental principle of this director's order is that the National Park Service will seek to provide the highest level of accessibility that is reasonable, and not simply provide the minimum level that is required by law.

Director's Order #50B: Occupational Safety and Health. The National Park Service has a continuing concern about the health and safety of its employees and others who spend time in the parks-whether as visitors, volunteers, contractors, concession employees, or in any other capacity. Those who participate in work or recreational activities in the parks are always, to some extent, exposed to the risk of accident, injury, or illness. In recognizing this, the National Park Service is committed to reducing these risks and the associated pain, suffering, and financial expense. The overall purposes of the National Park Service risk management program are to establish and implement a continuously improving and measurable risk management process that: (1) provides for the occupational safety and health of National Park Service employees; (2) provides for the safety and health of the visiting public; and (3) maximizes the utilization of National Park Service human and physical resources, and minimizes monetary losses through effective workers' compensation case management.

Director's Order #77-1: Wetland Protection. The wetland protection provisions of the 1980 National Park Service Floodplain Management and Wetland Protection Guidelines (45 Federal Register 35916, minor revisions in 47 Federal Register 36718), and any other conflicting instructions or delegations of authority, are superseded and replaced by this director's order and by Procedural Manual #71-1. Approved in 1998, the manual was developed for use by the National Park Service in carrying out its responsibilities under Executive Order 11990. The general policies, requirements, and standards included in the manual are:

- No net loss of wetlands and a long-term goal of net wetland gain
- Parkwide wetland inventories

- Restoration and enhancement of degraded wetland habitats
- Planning and siting to avoid or minimize effects to wetlands
- Restoration of degraded wetlands as compensation for adverse effects to wetlands
- Compliance with federal environmental regulations

Yosemite National Park Plans

Merced Wild and Scenic River Comprehensive Management Plan

The Merced Wild and Scenic River Comprehensive Management Plan provides a framework for decision-making on future management actions within the Merced River corridor. This will be accomplished through the application of a consistent set of decision-making criteria and considerations composed of seven management elements: boundaries, classifications, Outstandingly Remarkable Values, the Section 7 determination process, management zoning, the River Protection Overlay, and the Visitor Experience and Resource Protection framework.

Resources Management Plan for Yosemite National Park

Approved in 1993, the Resources Management Plan addresses specific natural and cultural resources issues. Natural resource issues addressed include the role of fire in the ecosystem, control of non-native plants, control of forest pests, horse and mule grazing, protection of special-status species, human/bear conflicts, other wildlife and fisheries management programs, and the park's research program. The Resources Management Plan also addresses management of cultural resources, including archeological and ethnographic resources, as well as cultural landscapes, museum collections, and historic structures.

Yosemite Fire Management Plan

Fire is a natural process of the Sierra Nevada and Yosemite National Park. The recurrence of fire shapes the ecosystems of the park, with many common plants exhibiting specific fire-adapted traits. The National Park Service adopted a Fire Management Plan in 1990 that provides clear guidelines regarding when and where to allow wildland and prescribed fires to burn. The National Park Service is in the process of updating its Fire Management Plan. The goal of natural and prescribed fire management in Yosemite is to restore or maintain natural fire regimes to the maximum extent possible so that natural ecosystems can operate essentially unimpaired by human interference.

Yosemite General Management Plan

The 1980 General Management Plan restates the park mission in the following management objectives:

- Conduct continuing research to gather and analyze information necessary for managing natural resources
- Restore altered ecosystems as nearly as possible to conditions that would exist had natural ecological processes not been disturbed
- Protect threatened and endangered plant and animal species, and reintroduce, where practical, those species eliminated from the natural ecosystems
- Identify and perpetuate natural processes in park ecosystems
- Preserve, protect, and interpret cultural resources
- Permit only those types and levels of use or development that do not significantly impair park natural resources, and direct development and use to environments least vulnerable to

deterioration

- Limit unnatural sources of air, noise, visual, and water pollution to the greatest degree possible
- The plan proposed boundary changes and acquisitions, extensive changes to developed sites, and removal of cars from Yosemite Valley as a long-term goal

Yosemite Human/Bear Management Plan

The goal of the Human/Bear Management Plan is to “restore the natural ecology, distribution, and behavior of black bears through control of human activities.” To this end, the plan directs specific actions and responsibilities to reduce the potential for bear/human interaction.

Yosemite Valley Plan

The National Park Service recently developed the Yosemite Valley Plan to implement the goals of the 1980 General Management Plan in Yosemite Valley. The Yosemite Valley Plan is designed to meet the resource preservation and visitor experience goals in Yosemite Valley, including natural and cultural resource management and restoration, visitor services and recreational opportunities, transportation, and employee housing.

Yosemite Vegetation Management Plan

The Vegetation Management Plan addresses the goals and objectives of managing the park’s vegetative resources. These goals and objectives seek to:

- Delineate the legislative and administrative requirements that guide development of vegetation management objectives
- Refine the goals and objectives for vegetation management established in the Resources Management Plan
- Describe the dynamic environment of vegetation within the park and the social, cultural, and natural processes that influence vegetation
- Discuss current vegetation management issues and information needs, and define management objectives, techniques, and strategies for achieving these objectives
- Provide an overview of the history of vegetation management
- Provide a summary of vegetation management planning needs to be addressed in the future, including the roles and responsibilities for planning and implementation

Yosemite National Park Rules and Regulations

Fisheries Rules and Regulations

In general, Yosemite National Park has adopted the same fishing regulations as apply to the California Department of Fish and Game management region that contains the park, and requires a valid California fishing license. California Department of Fish and Game maintains jurisdiction over areas outside of Yosemite National Park, where it enforces rules regarding hunting and fishing. The National Park Service has exclusive jurisdiction in the park. Fishing licenses are available for sale at Yosemite Village and Tuolumne Meadows. Licenses can also be purchased in Wawona and El Portal. In 1992, the National Park Service instituted special fishery regulations for the Merced River valley reach between Happy Isles and Pohono Bridge. In this reach, the fishery is catch-and-release only for rainbow trout (zero limit). Bait fishing is not allowed in this reach, with the requirement for artificial lures and flies only with barbless hooks in single, double, or triple

configuration. The catch of brown trout in Yosemite Valley is limited to 5 fish per day and 10 in possession. Further restrictions are imposed on “chumming” for trout, digging for worms or grubs, and using bait fish - either dead or alive - In any of the park’s waters.

Merced River Management - Standard Operating Procedure

In 1993, the National Park Service ended the practice of removing fallen trees from the river within Yosemite Valley. Previously, fallen trees were removed for bridge protection and to reduce hazards to rafters. Today, fallen trees are considered beneficial for streambank protection, aquatic organisms, and overall health of the riparian and aquatic corridors.

appendix B

AGENCY CORRESPONDENCE



United States Department of the Interior

NATIONAL PARK SERVICE

Yosemite National Park
P.O. Box 577
Yosemite, California 95389

IN REPLY REFER TO:
H3015 (YOSE-PM)

JUL 31 2003

Dr. Knox Mellon, State Historic Preservation Officer
California Department of Parks and Recreation
Office of Historic Preservation
P.O. Box 942896
Sacramento, California 94296-0001

Dear Dr. Mellon:

The National Park Service (NPS) at Yosemite National Park is considering a land exchange with the Central California Conference of the Seventh Day Adventist Church (SDA Church). In accordance with the *Memorandum of Agreement between The United States Department of the Interior, National Park Service, Yosemite National Park, and the County of Mariposa, California* (MOA #G8899939996), the County of Mariposa is the lead agency for the preparation of a joint document that meets both National Environmental Policy Act (NEPA) and California Environmental Quality Act requirements. Yosemite National Park is a co-lead in the NEPA process. Compliance with Section 106 of the National Historic Preservation Act is being carried out in accordance with Articles IV.A and IV.B of the *1995 Programmatic Agreement Among the National Park Service (U.S. Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers* (1995 PA), and Article VII.C(2) of the *1999 Programmatic Agreement Among The National Park Service At Yosemite, The California State Historic Preservation Officer (CA SHPO), and the Advisory Council on Historic Preservation Regarding Planning, Design, Construction, Operations and Maintenance, Yosemite National Park, California* (1999 PA), in coordination with NEPA.

The land parcels for the proposed exchange are located in the southern portion of the park in Wawona, within Mariposa County (see Enclosure 1). For over 70 years, the SDA Church has owned and operated a recreational camp known as Camp Wawona. Camp Wawona is part of a small inholding of private property within the park, and is adjacent to public lands managed by the NPS. Subsequent to the development of the camp, the public lands to the south and east of the camp were designated as a Wilderness Area. To provide a more effective buffer between the Wilderness Area and the camp, the NPS is considering the exchange of up to 18 acres of public land for 15.36 acres of SDA Church land at equal value.

Conceptual plans for park land conveyed to the SDA Church include restoration, reconstruction and reconfiguration of existing Camp Wawona facilities designed for the customary summer use. New construction to upgrade camp facilities for extended use during fall, winter and spring is also proposed (see Enclosure 2). The SDA Church would be responsible for removal of existing facilities and restoration of the land conveyed to the park to enable wilderness protection by the NPS.

The area of potential effect is situated within the Wawona Archaeological District, which has been determined by the Keeper as eligible for listing on the National Register of Historic Places (NRHP). To date, limited literature research and minimal surface reconnaissance have been conducted for each of the two subject parcels. Although there are no recorded archaeological sites on either of the parcels, in consideration of the recorded resources in the surrounding environs and the NRHP eligibility status, it is likely that unrecorded archaeological deposits are present on both parcels. There are two horse-drawn wagons on the current SDA Church land that are considered by the SDA Church as important to the history of Wawona; however, neither these wagons nor any of the existing

buildings and structures have been evaluated for eligibility for listing on the NRHP. The SDA Church would maintain possession of the wagons and move them to land conveyed by this undertaking.

Article IV.B(5) of the 1995 PA provides for in-house Section 106 review at Yosemite for acquisition of lands for park purposes, including additions to existing parks. There is no similar provision for disposal of park-owned lands. Therefore, Yosemite has determined that the proposed land conveyance is an undertaking with potential to affect historic properties that requires consultation with the California State Historic Preservation Officer.

Public involvement was initiated with the mailing of a Notice of Intent on January 27, 2003, for the Joint County of Mariposa/National Park Service Environmental Impact Report/Environmental Assessment. Yosemite issued press releases advertising open houses held at the Yosemite Valley East Auditorium on March 28 and May 21, 2003. A third public open house was held in Mariposa in the Government Center Supervisors' Room on June 23, 2003, from 2:00 to 6:00 PM. Project information is also available for public review on the internet at http://mariposacounty.org/planning/Major_Projects/SDA/Camp_Wawona_IS_checklist.pdf.

Native American consultation was initiated in 2000 with the seven tribes having cultural association with Yosemite. The North Fork Mono Rancheria requested a tour to view the properties being traded, which was conducted in June 2000; the tribe had no comment at that time. Consultation was continued with the American Indian Council of Mariposa County, Inc. (aka Southern Sierra Miwuk Nation) on April 24, 2003, following an open house in Yosemite Valley. The Southern Sierra Miwuk, the Northfork Mono Rancheria and the Chukchansi Tribal Government are the three groups most closely associated with the Wawona area, and are included in this communication regarding the project.

We request your review of the proposed land exchange and appreciate your assistance and advice regarding the best way to approach the protection and preservation of cultural resources that may be present and affected on the subject parcels. It is the intent of the NPS that the SDA Church will be responsible for the identification of historic properties, as well as development and implementation of measures to avoid or minimize effects of demolition, development, and recontouring on both parcels of land. We have considered a Memorandum of Agreement or historic preservation deed covenants as appropriate possibilities. For more information about this project, Ms. Jeannette Simons, Historic Preservation Officer and Native American Liaison, can be contacted by phone at (209) 379-1372, by facsimile at (209) 379-1294, or by email at jeannette_simons@nps.gov.

Sincerely,

/s/ R. Kevin Cann

Michael J. Tollefson
Superintendent

Enclosures

- (1) Project location maps
- (2) Seventh Day Adventist Conceptual Plan

cc: Jeannette Simons, Historic Preservation Officer and Native American Liaison, YOSE
Eric Jay Toll, Planning Director, County of Mariposa
Allison Nabours, Compliance Specialist, Entrix, Inc.
Steve Heipel, EDAW, Inc.
William Leonard, Chair, American Indian Council of Mariposa County, aka Southern Sierra Miwuk Nation
Elaine Bethel, Head of Cultural Resources, North Fork Mono Rancheria
Gilbert Cordero, Tribal Chair, Chukchansi Tribal Government



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W2605
Sacramento, California 95825

In Reply Refer To:

1-1-03-SP-1724

RECEIVED

11 APR 2003

APR 22 2003

Lisa Acree
Yosemite National Park
Post Office Box 700-W
El Portal, California 95318

Subject: Species List for Seventh-Day Adventist Church Camp Wawona-Facility
Master Plan and Land Exchange, Mariposa County, California

Dear Ms. Acree:

We are sending the enclosed list in response to your April 7, 2003, request for information about endangered and threatened species (Enclosure A). This list fulfills the requirement of the Fish and Wildlife Service (Service) to provide species lists under section 7(c) of the Endangered Species Act of 1973, as amended (Act).

The animal species on the Enclosure A quad list are those species we believe may occur within, or be affected by projects within, the following USGS quads, where your project is planned: Wawona.

Any plants on the quad list are ones that have actually been observed in the project quad(s). Plants may occur in a quad without having been observed there. Therefore we have included a species list for the whole county in which your project occurs. We recommend that you survey for any relevant plants shown on this list.

Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them. Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.

Executive Order 13186, January 17, 2001, directs Federal agencies to take specific steps to conserve migratory birds. Species of Concern (see below) are specifically included in this Executive Order. (The Order can be found at www.nara.gov/fedreg/eo.html) Birds are shown on our species lists regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. However you must contact the California Department of Fish and Game for official information about these species. Call (916) 322-2493 or write Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814.

Some of the species listed in Enclosure A may not be affected by the proposed action. A trained biologist or botanist, familiar with the habitat requirements of the listed species, should determine whether these species or habitats suitable for them may be affected. For plants, we recommend using the enclosed Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species (Enclosure C).

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is available upon request. This information may be helpful in preparing the biological assessment for this project, if one is required. Please see Enclosure B for a discussion of the responsibilities Federal agencies have under section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, under 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. If you determine that a proposed species may be adversely affected, you should consider requesting a conference with our office under 50 CFR § 402.10. Informal consultation may be utilized prior to a written request for formal consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal. Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

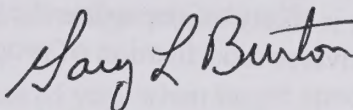
If any species has proposed or designated critical habitat within a quad, this will be noted on the species list. Maps and boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95).

Candidate species are being reviewed for possible listing. Contact our office if your biological assessment reveals any candidate species that might be adversely affected. Although they currently have no protection under the Endangered Species Act, one or more of them could be proposed and listed before your project is completed. By considering them from the beginning, you could avoid problems later.

Your list may contain a section called Species of Concern. This term includes former category 2 candidate species and other plants and animals of concern to the Service and other Federal, State and private conservation agencies and organizations. Some of these species may become candidate species in the future.

Please contact Gary Burton, Branch Chief, at (916) 414-6600, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Species Lists at this address. You may fax requests to 414-6712 or 414-6713.

Sincerely,



for

Michael B. Fris

Division Chief, Endangered Species Program

Enclosures

Enclosure B

FEDERAL AGENCIES' RESPONSIBILITIES UNDER SECTIONS 7(a) and (c) OF THE ENDANGERED SPECIES ACT

SECTION 7(a) Consultation/Conference

Requires: (1) federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species; (2) Consultation with FWS when a federal action may affect a listed endangered or threatened species to insure that any action authorized, funded, or carried out by a federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The process is initiated by the federal agency after determining the action may affect a listed species; and (3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat.

SECTION 7(c) Biological Assessment-Major Construction Activity¹

Requires federal agencies or their designees to prepare a Biological Assessment (BA) for major construction activities. The BA analyzes the effects of the action² on listed and proposed species. The process begins with a Federal agency requesting from FWS a list of proposed and listed threatened and endangered species. The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may proceed; however, no construction may begin.

We recommend the following for inclusion in the BA: an on-site inspection of the area affected by the proposal which may include a detailed survey of the area to determine if the species or suitable habitat is present; a review of literature and scientific data to determine species' distribution, habitat needs, and other biological requirement; interviews with experts, including those within FWS, State conservation departments, universities and others who may have data not yet published in scientific literature; an analysis of the effects of the proposal on the species in terms of individuals and populations, including consideration of indirect effects of the proposal on the species and its habitat; an analysis of alternative actions considered. The BA should document the results, including a discussion of study methods used, and problems encountered, and other relevant information. The BA should conclude whether or not a listed or proposed species will be affected. Upon completion, the BA should be forwarded to our office.

¹A construction project (or other undertaking having similar physical impacts) which is a major federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332(2)C).

²"Effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action.

Enclosure C

GUIDELINES FOR CONDUCTING AND REPORTING BOTANICAL INVENTORIES FOR FEDERALLY LISTED, PROPOSED AND CANDIDATE PLANTS

(September 23, 1996)

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.
2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations(s) is not available, investigators should study specimens from local herbaria.
3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.
4. Report results of botanical field inventories that include:
 - a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species
 - b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name
 - c. survey dates and survey methodology(ies)
 - d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made
 - e. a comprehensive list of all vascular plants occurring on the project site for each habitat type
 - f. current and historic land uses of the habitat(s) and degree of site alteration

- g. presence of target species off-site on adjacent parcels, if known.
 - h. an assessment of the biological significance or ecological quality of the project site in a local and regional context
5. If target species is(are) found, report results that additionally include:
- a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project
 - b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.
 - c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.
 - d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.
6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.
7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than 3 years from the current date of project proposal submission will likely need additional survey. Investigators need to assess whether an additional survey(s) is (are) needed.
8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.
9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below

Reference File No. 03-SP-1724

**Seventh-Day Adventist Church Camp Wawona-Facility Master Plan & Land
Exchange Mariposa County California**

April 9, 2003

QUAD: 437C WAWONA

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Species of Concern

Mammals

spotted bat, *Euderma maculatum* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

American (=pine) marten, *Martes americana* (SC)

Pacific fisher, *Martes pennanti pacifica* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

oak titmouse, *Baeolophus inornatus* (SLC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

American dipper, *Cinclus mexicanus* (SLC)

black swift, *Cypseloides niger* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

prairie falcon, *Falco mexicanus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Harlequin duck, *Histrionicus histrionicus* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

long-billed curlew, *Numenius americanus* (SC)

flamulated owl, *Otus flammeolus* (SC)

white-headed woodpecker, *Picoides albolarvatus* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)

California spotted owl, *Strix occidentalis occidentalis* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)

foothill yellow-legged frog, *Rana boylei* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Wawona riffle beetle, *Atractelmis wawona* (SC)

Merced Canyon shoulderband snail, *Helminthoglypta allynsmithi* (SC)

Yosemite mariposa sideband snail, *Monadenia hillebrandi yosemitensis* (SC)

Bohart's blue butterfly, *Philotiella speciosa bohartorum* (SC)

Sierra pygmy grasshopper, *Tetrix sierrana* (SC)

Plants

Congdon's wooly-sunflower, *Eriophyllum congdonii* (SC)

short-leaved hulsea (=shortleaf alpinegold), *Hulsea brevifolia* (SLC)

KEY:

(E)	<i>Endangered</i>	Listed (in the Federal Register) as being in danger of extinction.
(T)	<i>Threatened</i>	Listed as likely to become endangered within the foreseeable future.
(P)	<i>Proposed</i>	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	<i>Proposed Critical Habitat</i>	Proposed as an area essential to the conservation of the species.
(C)	<i>Candidate</i>	Candidate to become a <i>proposed</i> species.
(SC)	<i>Species of Concern</i>	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(SLC)	<i>Species of Local Concern</i>	Species of local or regional concern or conservation significance.
(MB)	<i>Migratory Bird</i>	Migratory bird
NMFS	NMFS species	Under the jurisdiction of the National Marine Fisheries Service. Contact them directly.
(D)	<i>Delisted</i>	Delisted. Status to be monitored for 5 years.
(CA)	<i>State-Listed</i>	Listed as threatened or endangered by the State of California.
(*)	<i>Extirpated</i>	Possibly extirpated from this quad.
(**)	<i>Extinct</i>	Possibly extinct.
	<i>Critical Habitat</i>	Area essential to the conservation of a species.

Endangered and Threatened Species that May Occur in or be Affected by
PROJECTS IN MARIPOSA COUNTY
Reference File No. 1-1-03-SP-1724
Seventh-Day Adventist Church Camp Wawona-Facility Master Plan & Land Exchange
Mariposa County California
April 9, 2003

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

Amphibians

California tiger salamander, *Ambystoma californiense* (C/E)

California red-legged frog, *Rana aurora draytonii* (T)

Critical habitat, California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

Mariposa pussy-paws, *Calyptridium pulchellum* (T)

succulent (=fleshy) owl's-clover, *Castilleja campestris ssp. succulenta* (T)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Invertebrates

Critical habitat, vernal pool invertebrates, See Federal Register 67:59883 (PX)

Plants

Critical habitat, vernal pool plants, See Federal Register 67:59883 (PX)

Candidate Species

Amphibians

Yosemite toad, *Bufo canorus* (C)

mountain yellow-legged frog, *Rana muscosa* (C)

Fish

green sturgeon, *Acipenser medirostris* (C)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Plants

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

California wolverine, *Gulo gulo luteus* (CA)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

pygmy rabbit, *Brachylagus idahoensis* (SC)

pale Townsend's big-eared bat, *Corynorhinus* (=Plecotus) *townsendii pallescens* (SC)

Pacific western big-eared bat, *Corynorhinus* (=Plecotus) *townsendii townsendii* (SC)

spotted bat, *Euderma maculatum* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

American (=pine) marten, *Martes americana* (SC)

Pacific fisher, *Martes pennanti pacifica* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Mt. Lyell shrew, *Sorex lyelli* (SC)

Birds

Swainson's hawk, *Buteo Swainsoni* (CA)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

bank swallow, *Riparia riparia* (CA)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American peregrine falcon, *Falco peregrinus anatum* (D)

northern goshawk, *Accipiter gentilis* (SC)

tricolored blackbird, *Agelaius tricolor* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

American bittern, *Botaurus lentiginosus* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

olive-sided flycatcher, *Contopus cooperi* (SC)

black swift, *Cypseloides niger* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

flamulated owl, *Otus flammeolus* (SC)

white-headed woodpecker, *Picoides albolarvatus* (SC)

white-faced ibis, *Plegadis chihi* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)

red-breasted sapsucker, *Sphyrapicus ruber* (SC)

California spotted owl, *Strix occidentalis occidentalis* (SC)

California thrasher, *Toxostoma redivivum* (SC)

oak titmouse, *Baeolophus inornatus* (SLC)

American dipper, *Cinclus mexicanus* (SLC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

northern sagebrush lizard, *Sceloporus graciosus graciosus* (SC)

Amphibians

limestone salamander, *Hydromantes brunus* (CA)

Mount Lyell salamander, *Hydromantes platycephalus* (SC)

foothill yellow-legged frog, *Rana boylei* (SC)

western spadefoot toad, *Spea hammondi* (SC)

Fish

river lamprey, *Lampetra ayresi* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Wawona riffle beetle, *Atractelmis wawona* (SC)

Merced Canyon shoulderband snail, *Helminthoglypta allynsmithi* (SC)

Leech's skyline diving beetle, *Hydroporus leechi* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Yosemite mariposa sideband snail, *Monadenia hillebrandi yosemitensis* (SC)

Bohart's blue butterfly, *Philotiella speciosa bohartorum* (SC)

Sierra pygmy grasshopper, *Tetrix sierrana* (SC)

Plants

Merced clarkia, *Clarkia lingulata* (CA)

Mariposa lupine, *Lupinus citrinus* var. *deflexus* (CA)

Small's southern clarkia, *Clarkia australis* (SC)

Mariposa clarkia, *Clarkia biloba ssp. australis* (SC)

beaked clarkia, *Clarkia rostrata* (SC)

Rawson's flaming-trumpet, *Collomia rawsoniana* (SC)

Congdon's wooly-sunflower, *Eriophyllum congdonii* (SC)

Yosemite woolly-sunflower, *Eriophyllum nubigenum* (SC)

Yosemite lewisia, *Lewisia disepala* (SC)

shaggyhair lupine, *Lupinus spectabilis* (SC)

Hetch Hetchy (=slender-stemmed) monkeyflower, *Mimulus filicaulis* (SC)

California beaked-rush, *Rhynchospora californica* (SC)

parasol (=Bolander's) clover, *Trifolium bolanderi* (SC)

big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)

Hoover's caycadenia, *Calycadenia hooveri* (SLC)

stinkbells, *Fritillaria agrestis* (SLC)

Parry's horkelia, *Horkelia parryi* (SLC)

short-leaved hulsea (=shortleaf alpinegold), *Hulsea brevifolia* (SLC)

Madera linanthus, *Linanthus serrulatus* (SLC)

slender-stalked monkeyflower, *Mimulus gracilipes* (SLC)

pansy (=yellowlip pansy) monkeyflower, *Mimulus pulchellus* (SLC)

Yosemite (=Torry's) popcorn-flower, *Plagiobothrys torreyi var torreyi* (SLC)

Pleasant Valley mariposa lily, *Calochortus clavatus var. avius* (SC) *

Congdon's lomatium, *Lomatium congdonii* (SC) *

Mariposa daisy, *Erigeron mariposanus* (SC) **

common moonwort, *Botrychium lunaria* (SC)

Mono Hot Springs evening-primrose, *Camissonia sierrae ssp. alticola* (SC)

KEY:

(E)	<i>Endangered</i>	Listed (in the Federal Register) as being in danger of extinction.
(T)	<i>Threatened</i>	Listed as likely to become endangered within the foreseeable future.
(P)	<i>Proposed</i>	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	<i>Proposed Critical Habitat</i>	Proposed as an area essential to the conservation of the species.
(C)	<i>Candidate</i>	Candidate to become a <i>proposed</i> species.
(SC)	<i>Species of Concern</i>	Other species of concern to the Service.
(SLC)	<i>Species of Local Concern</i>	Species of local or regional concern or conservation significance.
(D)	<i>Delisted</i>	Delisted. Status to be monitored for 5 years.
(CA)	<i>State-Listed</i>	Listed as threatened or endangered by the State of California.
NMFS	NMFS species	Under the jurisdiction of the National Marine Fisheries Service. Contact them directly.
*	<i>Extirpated</i>	Possibly extirpated from the area.
**	<i>Extinct</i>	Possibly extinct
	<i>Critical Habitat</i>	Area essential to the conservation of a species.

appendix C

LIST OF PLANT SPECIES OBSERVED

Plant Species Observed in the Camp Wawona Project Area

Scientific Name	Common Name
<i>Adenocaulon bicolor</i>	Trail plant
<i>Aira caryophyllea</i>	Silver hairgrass
<i>Alnus incana</i>	Mountain alder
<i>Apocynum androsaemifolium</i>	Spreading dogbane
<i>Arabis drummondii</i>	Drummond's rock cress
<i>Arctostaphylos viscida</i>	Whiteleaf manzanita
<i>Astragalus</i> sp.	Milkvetch
<i>Brodiaea elegans</i>	Harvest brodiaea
<i>Bromus carinatus</i>	California brome
<i>Bromus diandrus</i>	Ripgut brome
<i>Bromus hordeaceus</i>	Soft chess brome
<i>Bromus tectorum</i>	Cheatgrass
<i>Calocedrus decurrens</i>	Incense cedar
<i>Calochortus invenustus</i>	Plain mariposa lily
<i>Calyptridium</i> sp.	Pussypaws
<i>Capsella bursa-pastoris</i>	Shepherd's purse
<i>Carex</i> sp.	Sedge
<i>Ceanothus integerrimus</i>	Deerbrush
<i>Ceanothus</i> sp.	Ceanothus
<i>Cerastium glomeratum</i>	Mouse-eared chickweed
<i>Chaenactis</i> sp.	Pincushion flower
<i>Chamaebatia foliolosa</i>	Mountain misery
<i>Chrysothamnus nauseosus</i>	Rabbitbrush
<i>Cirsium vulgare</i>	Bull thistle
<i>Clarkia</i> sp.	Clarkia
<i>Claytonia perfoliata</i>	Miner's lettuce
<i>Collinsia</i> sp.	Blue-eyed mary
<i>Collomia grandiflora</i>	Large-flowered collomia
<i>Cryptantha</i> sp.	Cryptantha
<i>Cynoglossum grande</i>	Pacific hound's tongue
<i>Cynosurus echinatus</i>	Dogtail grass
<i>Deschampsia danthonioides</i>	Annual hairgrass
<i>Dianthus</i> sp.	Ornamental carnation
<i>Elymus elymoides</i>	Squirreltail grass
<i>Elymus glaucus</i>	Blue wildrye
<i>Epilobium brachycarpum</i>	Tall annual willow-herb
<i>Equisetum telmateia</i>	Giant horsetail
<i>Eriogonum nudum</i>	Naked buckwheat
<i>Festuca californica</i>	California fescue

Plant Species Observed in the Camp Wawona Project Area

Scientific Name	Common Name
<i>Fragaria vesca</i>	Wood strawberry
<i>Galium aparine</i>	Common bedstraw
<i>Galium</i> sp.	Bedstraw
<i>Gilia</i> sp.	Gilia
<i>Helenium</i> sp.	Sneezeweed
<i>Heracleum lanatum</i>	Cow parsnip
<i>Hieracium album</i>	White-flowered hawkweed
<i>Holcus lanatus</i>	Velvet grass
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Foxtail barley
<i>Iris hartwegii</i>	Hartweg's iris
<i>Juncus effusus</i>	Pacific rush
<i>Leucanthemum vulgare</i>	Ox-eye daisy
<i>Linanthus ciliatus</i>	Whisker-brush
<i>Lithophragma bolanderi</i>	Bolander's woodland star
<i>Lomatium</i> sp.	Biscuitroot
<i>Lotus humistratus</i>	Bird's foot lotus
<i>Luzula comosa</i>	Common wood rush
<i>Luzula divaricata</i>	Forked wood rush
<i>Madia minima</i>	Small tarweed
<i>Melica</i> sp.	Melic grass
<i>Melilotus</i> sp.	Sweet-clover
<i>Mimulus guttatus</i>	Seep monkeyflower
<i>Mimulus</i> sp.	Monkeyflower
<i>Navarretia</i> sp.	Navarretia
<i>Osmorhiza chilensis</i>	Mountain sweet-cicely
<i>Penstemon speciosus</i>	Showy penstemon
<i>Pinus lambertiana</i>	Sugar pine
<i>Pinus ponderosa</i>	Ponderosa pine
<i>Plantago lanceolata</i>	English plantain
<i>Platanthera</i> sp.	Bog orchid, rein orchid
<i>Poa bulbosa</i>	Bulbous blue grass
<i>Poa pratensis</i>	Kentucky blue grass
<i>Polygonum arenastrum</i>	Knotweed
<i>Potentilla glandulosa</i>	Sticky cinquefoil
<i>Pseudotsuga menziesii</i>	Douglas-fir
<i>Pteridium aquilinum</i>	Bracken fern
<i>Quercus berberidifolia</i>	Scrub oak
<i>Quercus chrysolepis</i>	Canyon live oak
<i>Quercus kelloggii</i>	Black oak

Plant Species Observed in the Camp Wawona Project Area

Scientific Name	Common Name
<i>Ribes</i> sp.	Gooseberry
<i>Rosa woodsii</i>	Woods' rose
<i>Rubus</i> sp.	Blackberry
<i>Salix</i> sp.	Willow
<i>Sarcodes sanguinea</i>	Snow plant
<i>Senecio</i> sp.	Groundsel
<i>Silene bridgesii</i>	Bridge's campion
<i>Silene californica</i>	Windmill pink
<i>Spiraea</i> sp.	Spiraea
<i>Streptanthus</i> sp.	Jewelflower
<i>Torilis nodosa</i>	Knotted hedge-parsley
<i>Trifolium breweri</i>	Brewer's clover
<i>Trifolium repens</i>	White clover
<i>Viola</i> sp.	Violet
<i>Vulpia microstachys</i>	Small fescue

appendix D

TRAFFIC REPORT

TRAFFIC IMPACT ANALYSIS

For

CAMP WAWONA REDEVELOPMENT AND PROPOSED LAND EXCHANGE Mariposa County, CA

Prepared For:

EDAW
2022 J Street
Sacramento, CA 95814

Prepared By:

kdANDERSON Transportation Engineers
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555

September 30, 2003

2630-11

Camp Wawona.rpt

KDA

**TRAFFIC IMPACT ANALYSIS FOR
CAMP WAWONA REDEVELOPMENT AND PROPOSED LAND EXCHANGE
Mariposa County, CA**

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September 30, 2003

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INTRODUCTION

This report summarizes **kdANDERSON Transportation Engineers'** analysis of the potential short-term and long-term traffic impacts associated with implementation of the **Camp Wawona Redevelopment and Proposed Land Exchange Project** in the Yosemite National Park area of Mariposa County, California. As currently proposed, the project involves modification to an existing camp within Yosemite National Park that is operated and maintained by the Central California Conference of the Seventh-day Adventists (Seventh-day Adventists). The project site occupies an approximately 30-acre site located off of Forest Drive about 2 miles east of Wawona Road near the National Park's southern entrance.

Study Scope. The purpose of this analysis is to present an assessment of potential project-specific and cumulative traffic impacts associated with the project and to suggest feasible measures for mitigating identified impacts. The analysis includes evaluation of existing conditions in the area based on current summer weekend afternoon peak hour traffic volumes, as well as average annual daily traffic volumes on study area roads. The characteristics of the proposed project have been determined, including estimated trip generation, as well as the directional distribution and assignment of the project traffic. By superimposing project trips onto existing traffic volumes, the impacts of project traffic on the operating conditions of streets and intersections in the area have been identified.

EXISTING SETTING

This report section describes current traffic volume levels and accompanying traffic operations on the roadways and intersections within the study area.

Existing Street System

Regional access to Camp Wawona will continue to be via State Route (SR 41) and Wawona Road. These major facilities bring guests to the Wawona area of southern Yosemite National Park. From Wawona Road, Forest Drive extends easterly for about 2 miles to Camp Wawona. The text that follows describes these facilities.

Wawona Road and SR 41 are Major Arterial roads that link the southern Yosemite National Park area with the balance of the park and with the Oakhurst / Fresno metropolitan area to the south. State Route 41 originates in Fresno County and continues northerly through Madera County through Coarsegold and Oakhurst to Yosemite National Park's southern gate. From that point, the highway continues through Yosemite National Park as Wawona Road.

In the vicinity of the proposed project Wawona Road is a two lane conventional highway with shoulders that range from 2 to 4 feet. The alignment of the highway is classified as "rolling" under the parameters incorporated into the *2000 Highway Capacity Manual (HCM)*. The posted speed limit on Wawona Road is generally 40 mph, but is reduced where road conditions (e.g., sharp curves) warrant slower speeds.

Forest Drive is a local road that extends easterly from Wawona Road to provide access to the portion of the Wawona area that lies south of the South Fork Merced River. The Wawona Road / Forest Drive intersection is controlled by a stop sign on the westbound Forest Drive approach. The western side of the intersection is an open unpaved area used for informal parking. The portion of Forest Drive immediately east of Wawona Road provides access to the parking lots serving the Wawona general store and stables. In this area the roadway is about 18 feet wide. Forest Drive continues for about 2 miles to Camp Wawona, terminating several hundred feet east of the camp at the parking lot for the Chilnualna Falls trailhead on National Park Service lands. The roadway in this area ranges from about 11 to 15 feet in width as Forest Drive generally follows the natural terrain along the south side of the South Fork Merced River.

Portions of Forest Drive are under the jurisdiction of the National Park Service and other areas are located within the jurisdiction of Mariposa County. Mariposa County generally controls the portion of Forest Drive east of the Koon Holler Road intersection about 1 mile east of Wawona Road. The portion of Forest Drive between Wawona Road and the Koon Holler Road intersection is owned and managed primarily by the National Park Service. The posted speed limit on Forest Drive is 15 mph.

Non - Automotive Circulation

The Wawona area is served by various alternatives to the private automobile.

Yosemite Area Transportation System. Yosemite Area Transportation System (YARTS) provides bus service through the Yosemite region and connects the project area with the Yosemite Valley floor. A YARTS bus loading area exists on Wawona Road immediately south of the Forest Drive intersection.

Some of the visitors to Camp Wawona arrive by charter bus, although the number of busses is very small (i.e., perhaps two busses each weekend).

Pedestrian / Bicycle Facilities. The study area has pedestrian trails that provide access to local attractions. There are two designated pedestrian crossings on Forest Drive that link the parking area near Wawona Road with the South Fork Merced River and with other local attractions. These crossings are within ¼ mile of Wawona Road. East of the parking area, there are no designated pedestrian or bicycle facilities along Forest Drive, and because shoulders are limited, pedestrians and cyclists share the roadway with automobiles.

Standards of Significance - Level of Service Methodology

Methodology. The study area includes facilities that are under the jurisdiction of both Mariposa County and the National Park Service. As a result, the methodologies employed to evaluate traffic conditions and to determine the significance of these traffic conditions varies.

Nationally Recognized Standards. The National Park Service evaluates traffic conditions based on operating Levels of Service derived from nationally recognized methodologies. Level of

Service (LOS) is a quantitative measure of traffic flow conditions that can be applied to urban streets and rural highways, as well as signalized and stop controlled intersections. The most relevant nationally recognized guide to the evaluation of the Level of Service is the *2000 Highway Capacity Manual (HCM)*. Level of Service based on the HCM has been employed to address the operation of the Wawona Road / Forest Drive intersection. However, while the 2000 HCM addresses conditions on rural roads, it lacks a methodology for dealing with rural roadways as narrow as Forest Drive (i.e., less than 18 feet of pavement).

The 2000 HCM notes that Level of Service grades of A thru F can be used to describe progressively worsening traffic conditions on roads and at intersections. In the case of intersections controlled by side street stop signs, the length of delays experienced by motorists who must yield the right of way in order to pass through the intersection is the primary measure of the quality of traffic flow. Table 1 presents the general characteristics of each LOS grade.

TABLE 1
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Rural Roadway
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 seconds (sec)	Little or no delay. Delay ≤ 10.0 sec/vehicle (veh)	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: 2000 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209.			

The *American Association of State Highway and Transportation Officials (AASHTO)* have assembled additional information in their publication *A Policy on Geometric Design of Highways and Streets (2001)*. While this publication provides guidance for many issues associated with roadway design, Exhibit 9-75 provides guidelines for determining the need for left turn lanes on rural roads. These guidelines, which account for the amount of traffic and percentage of traffic attempting left turns, have been employed for this study.

Mariposa County General Plan Circulation Element. Mariposa County has faced the issue of narrow rural roads, and the County's Draft General Plan Update Circulation Element includes guidelines for evaluating traffic conditions on low-volume rural roads. These guidelines are based on daily traffic volume thresholds that would necessitate specific roadway sections in order to deliver traffic flow conditions that are commensurate with the expectations of County residents.

TABLE 2
MARIPOSA COUNTY LEVEL OF SERVICE STANDARDS FOR LOW VOLUME ROADS

Level of Service	Volume Threshold	Description	Surface
1	<1,250 ADT	No lane <12' lanes; bridges minimum 12' lanes, typical travel speed of 35 mph or more	Paved in Good Condition
2	<1,250 ADT	No lane <12' lanes; All bridges minimum 18' width; typical travel speed 35 mph or more	Paved in Fair Condition
3	<1,250 ADT	No lane <10' lanes; bridges may be 15' tp 18' wide; typical travel speeds of 25 mph or more	
4	<1,250 ADT	Minimum total width of 18'; on a through road bridges may be one lane*; typical travel speed of 25 mph or less	
5	<1,250 ADT	Minimum total road width of 18', stream crossings with culverts of bridges, no fords, speed not a consideration	Paved
	< 300 ADT		Gravel in Passable Condition
6	> 300 ADT	No formal or active road maintenance association or zone of benefit	Gravel in Passable Condition
	<150 ADT		Dirt in Passable Condition

* On a local or dead end road, if the bridge is less than 18 feet wide there must be a second point of access from the road basin for the road to be classified as LOS D or higher.

Standards of Significance. The Mariposa County Draft General Plan Update Circulation Element notes that LOS D is the minimum standard for acceptable Level of Service in community areas such as the Town of Wawona. Policy 9-1a and Implementation Measure 9-1d (1) state:

A publicly-maintained road with an average daily traffic of 1,250 or more and a traditional level of service rating of "A" thru "D" shall be deemed to have adequate capacity to serve the needs of road basins.

No subdivision or discretionary project shall be approved if it causes the capacity of its road basin to be exceeded or causes any basin road to drop below Traditional LOS D or Mariposa LOS "5" without mitigation

During the short-term planning period, the County shall enact a road ordinance incorporating standards and specifications applicable to roads under County jurisdiction. At a minimum, the ordinance shall include:

A requirement that all roads serving a road basin of 25 or more lots shall have an all weather service;

A requirement that no roads shall be constructed to less than the fire safe standards;

Road templates, which are coordinated with functional, service classification and level of service;

All roads shall be contained within mandatory enforceable road maintenance associations or zones of benefit;

All road construction shall be inspected and approved by the Public Works Department, and

Road circulation within a basin shall be designed to be interconnected and no cul-de-sac or dead end road shall be longer than 1,320 linear feet.

Thus, an impact would be considered to be significant if it renders LOS E or F at a currently acceptable location operating at LOS A, B, C or D. Similarly, an impact is significant if Mariposa LOS "1" thru "5" conditions deteriorate to LOS "6". Finally under the Draft Circulation Element, an impact would be significant if traffic volume is increased on a cul-de-sac that is more than 1,320 feet long.

Existing Traffic Volumes

To quantify existing traffic conditions in the study area available traffic volume data was assembled and new traffic volume counts were conducted. Daily traffic volume counts conducted for the project proponents during July 2002 were obtained and verified. This data revealed that the peak traffic associated with operation of Camp Wawona occurs on a Sunday in the early afternoon, and new intersection turning movement counts were conducted in July 2003 during this time period at the Wawona Road / Forest Drive intersection. Information regarding off-season traffic volumes was obtained from available traffic counts. Based on this available information current *Annual Average Daily Traffic Volumes (AADT)* were estimated for Forest Drive.

Figure 1 presents current traffic volume information for study area roads. As shown, recent count data is available for peak summer conditions at several locations along Forest Drive. However, only intermittent data is available for off-season time periods.

To develop an annual average traffic volume the following assumptions were made based on this data:

1. The average daily traffic volume occurring during the summer 2002 observations would occur for 12 weeks each year;
2. The October 1976 traffic volume noted in the responses to public comments on the Wawona Town Planning Area Specific Plan is representative of the average "off-peak" conditions, which would occur for 40 weeks each year;
3. The relationship between "summer" and "off-peak" conditions can be based on comparison of available data, which suggests that the off-peak is about 30% of the summer (i.e., 66 ADT / 225 ADT).

Based on this data the Annual Average Daily Volumes presented in Table 3 were estimated. As shown, on an annualized basis the volume at each location along Forest Drive is below the 300 ADT threshold employed by Mariposa County to differentiate between Service Level 5 and Service Level 6. Thus, while the current width of Forest Drive fails to meet the minimum 18-foot standard identified for Service Levels 1-5, the road meets the minimum standards required for Service Level 6.

**TABLE 3
FOREST DRIVE TRAFFIC VOLUME SUMMARY**

Data	Date	Location			
		1	2	3	4
		West of Koon Holler Rd to Dumping Station (Vehicles per day)	East of Koon Holler Road to Camp Wawona (Vehicles per day)	East of Camp Wawona (Vehicles per day)	Difference between 2 and 3 (Vehicles per day)
Summer Peak Day	July 21, 2002 Count	468	360	244	116
Summer Average	July 16 to 30, 2002 Counts	346	225	131	94
Off-Season Average	October 4-12, 1976		66		
Summer Average	July 16-23, 1987		347		
Estimated Annual Average Daily Traffic		160	105	60	45

Current Peak Hour Traffic Conditions

Intersection Levels of Service. Current (July 2003) Sunday Levels of Service were calculated at the Wawona Road / Forest Drive intersection (Refer to the Appendix for calculation worksheets) and were summarized in Table 4. As shown, the intersection operates at LOS B.

TABLE 4
EXISTING SUMMER SUNDAY INTERSECTION LEVELS OF SERVICE

Intersection	Control	12:00 – 2:00 PM Peak Hour	
		Average Delay	LOS
Wawona Road / Forest Drive	EB/ WB Stop	(12.5sec)	(B)
(Overall)		7.7 sec	
NB left turn		7.9 sec	
SB left turn		10.4 sec	
EB Forest Dr Approach		14.2 sec	
WB Forest Drive Approach			

Existing Safety Issues

As with many rural roads in Mariposa County, Forest Drive has evolved from a dirt path into a paved road over many years. Thus, the alignment of portions of the road follows the natural terrain along the south side of the South Fork Merced River. As a result, the road is generally narrow, sight distance is limited in some locations, and vehicles traveling in opposite directions are only able to pass if one motorist partially leaves the pavement onto available shoulders or pullouts. This situation is generally tolerated by local residents and frequent visitors who are aware of the condition of this low-volume road. However, it is a condition that may be exacerbated by increased traffic.

Field Review. To provide a basis for considering the impacts of the Camp Wawona project, a field review was conducted to identify key features of the existing Forest Drive alignment. Features that could influence motorist and pedestrian safety include:

- Pavement Width
- Pavement Condition
- Shoulder Width;
- Nature of Roadside Obstructions
- Availability of pullouts
- Sight Distance limitations created by vertical or horizontal alignment.

The information gathered during the filed review is summarized in Table 5.

As indicated, no portion of Forest Drive east of the parking lot meets Mariposa County's standard for LOS 1-5 (i.e., 18' paved width). Generally the road remains passable for two-way travel since opposing drivers can usually move one set of wheels onto the dirt shoulder. However, in several locations the clear space between obstructions is also less than the minimum 18 feet standard. When opposing vehicles meet under these circumstances, one of opposing motorists typically moves off of the road at a location in advance of the obstacle in order to allow the other to proceed through the "bottleneck".

TABLE 5
FOREST ROAD FIELD REVIEW RESULTS

No.	Location	Pavement Width	Obstructions		Pull Outs Available?	Other Issues?
			Clear Distance	Type		
1	From Parking Lot to East of Stables	15'	18'	Trees	No	
3	At Private Road A	14'		Embankment	Limited	Crest Vertical Curve limits sight distance
4	East of Private Road A	13'	16'	Rock embankment, Trees	No	
5	East of Lift Station # 2	14'	18'	Embankment & Trees	Limited	
6	At Private Road B	14'	20'		Yes	Short vertical curve
7	At sewer manhole east of Private Road B	14'	16'	Uphill & downhill embankments	No	
8	From Private Road B to Private Road C	14'	18'	Small embankments	No	
9	From Private Road B to Private Road C	14'	18'	Steep drop off and Tree	Yes	Crest Vertical Curve
10	East of Private Road D	14'	19'	Trees	No	
11	East of Private Road E	13'	15'	Power Pole and Trees	No	
13, 14	West of Koon Hollar Rd	14'	18'	Bollards and trees, sign	Yes	
15	At Koon Hollar Rd	12'	16'	Drainage grate, trees	Yes	
16,	East of Koon Hollar Rd	12'	16'	Trees	Yes	
18	Curve east of Koon Hollar Rd	12'	13'	Trees, embankment	Small	
19	Curve east of Koon Hollar Rd	11'	12'	Power Pole Tree & embankment	Small	
20-23	Koon Hollar Rd to Private Road E	12'	15'	Tree and embankment	Yes	

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TABLE 5 (CONT'D)
FOREST ROAD FIELD REVIEW RESULTS

No.	Location	Pavement Width	Obstructions		Pull Outs Available?	Other Issues?
			Clear Distance	Type		
24	From Private Road E to Whispering Pines	12'	14'	Large stump and trees	No	
25	From Private Road E to Whispering Pines	12'	15'	Guy tree & embankment	No	
26	From Private Road E to Whispering Pines	12'	17'	Trees	Yes	
27	From Private Road E to Whispering Pines	11'	14'	Trees	Yes	
28	At Whispering Pines	12'	16'	Pole stump	No	
29	West of Private Road F	12'	16'	Tree and embankment	Yes	
30	West of Private Road F	11'	13'	Tree and embankment	No	
31	At Private Road F	11'	13'	Tree and embankment	No	
32	East of Private Road G	11'	13'	Stump and rocks	No	
33	East of Private Road G	10'	12'	Two trees	Yes	
34-41	From Private Road G to Camp Wawona	11'	13'	Trees, stumps & downhill embankment	No	

This arrangement is typically satisfactory in areas where traffic volumes are low and where enough sight distance is available to allow approaching motorists to identify the bottleneck and see the other vehicle. If this is not the case, some level of inconvenience will occur and a safety issue can result when approaching vehicles meet at the bottleneck and one is required to back up to a wider spot in the road.

Review of available information regarding accident frequency on Forest Drive suggests that while some conflicts at bottlenecks may occasionally occur, these deficiencies have not resulted in a significant accident problem.

Bus Access. As noted earlier, charter busses occasionally travel to Camp Wawona. Review of the current condition of Forest Drive reveals that while it is possible for a full-size bus to negotiate this road, the bus would occupy most of the roadway. There would be few locations where motorists would feel comfortable attempting to drive past an oncoming bus. When a bus and passenger vehicle meet it is likely that the driver of the smaller vehicle must look for a wide pullout in order to leave room for the bus to pass. The number of wide pullouts, especially in the areas of vertical curves and other major obstructions is limited.

Left Turn Lanes At Wawona Road / Forest Drive Intersection. Current peak hour volumes at the Wawona Road / Forest Drive intersection have been compared to AASHTO guidelines to determine whether left turn lanes are already needed. The volumes observed for this study fall below the levels required to justify left turn lanes at this location.

PROJECT IMPACTS / MITIGATION MEASURES

Project Characteristics

The proposed project is not intended to greatly change the operating characteristics of the existing Camp Wawona operation, but it is expected that that under the redevelopment of the camp, additional visitors will be attracted to the camp during the off-peak season. Thus, major changes to current peak summer traffic volumes are not anticipated, but an overall increase in the annual volume of traffic on Forest Drive is possible.

Trip Generation – Existing Operations. To quantify the amount of vehicular traffic generated by implementation of the proposed project, the amount of traffic already generated by existing operations at Camp Wawona was estimated on both a peak day and average day conditions.

Limited information is available regarding utilization of Camp Wawona. According to the draft Camp Wawona Master Plan, we understand that during a peak summer week there may be as many as 250 student campers and 80 volunteers at the camp (330 persons total). During the rest of the year there are perhaps 100 to 200 persons at the camp on a weekend and fewer than 100 persons during the week.

Daily Traffic. The volume of traffic attracted to Camp Wawona was derived from review of the traffic volume counts conducted on Forest Drive at locations east and west of the camp. As

noted in Table 3, the difference between the volume reported west and east of the camp is about 116 vehicle trip ends per day on the peak day and 94 trip ends on the average summer day. Assuming that the level of camp activity during the “off-peak” season is proportional to the difference in observed traffic counts, then the average annual daily traffic contribution to Forest Drive as a result of existing camp activities is probably about 45 AADT.

Peak Hour Traffic. In the summer the highest traffic volumes on Forest Drive were observed on midday on Sunday. At this time the existing camp generates its peak traffic during the early afternoon on Sundays when parents travel to and from the camp to drop off and pick up campers.

Comparison of the peak hourly volume west and east of the camp revealed the information presented in Table 6. As shown, about 60 vehicles per hour were observed on Forest Drive between Koon Hollar Road and the camp. The volume just east of the camp was about 50 vehicles per hour, and as shown, the difference would be 6 to 14 vehicles per hour. This difference may be attributed to camp traffic, although it is also possible that during that time period a portion of the traffic counted east of camp were parent vehicles that stopped in the area just beyond the camp to park.

Based on this information we conservatively estimate that during the highest volume hour of Summer Sunday traffic the camp probably generates no more than 20 automobile trips (i.e., 10 inbound and 10 outbound).

**TABLE 6
SUNDAY PEAK HOUR TRAFFIC**

Date	Time	Hourly traffic volume on Forest Drive		
		1	2	3
		East of Koon Hollar	East of Camp Wawona	Difference Between 1 and 2
July 21, 2003	12:00 p.m.	57	51	6
July 28, 2003	1:00 p.m.	62	48	14

Busses. Visitors to Camp Wawona occasionally travel by charter bus, although the number of busses is small (i.e., no more than two bus round trips per weekend). However, it is possible that with increased camp use under the proposed redevelopment, additional busses could be used.

Trip Generation – Proposed Project. Implementation of the proposed Camp Wawona Redevelopment and Proposed Land Exchange Project is not intended to greatly increase the capacity of the camp. Thus, it is not expected that the proposed project will greatly increase the volume of traffic on study area roads on peak summer days. However, it is expected that additional visitors will make use of the facility during times when the camp is currently underutilized. Increased occupancy during the off-peak season may increase the overall volume of traffic on study area roads on an Annual Average Daily basis.

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Assumptions. Because precise information is not available regarding the total number of current visitors to Camp Wawona on an annual basis, this impact assessment has made general assumptions regarding the change in use that may occur and has equated these changes to trip generation based on the observations of existing traffic. On a peak week it has been assumed that implementation of the proposed project could result in a 20% increase in the total occupancy (i.e., increase from 330 persons to 400 persons). During the off-season it has been assumed that weekend attendance that today ranges from 100 to 200 persons could increase to 250. This would represent a 67% increase over the mid-point of the range. Similarly, during an off-season mid-week it has been assumed that the current occupancy could increase by 67% (i.e., from less than 100 to 150 persons).

While all of these assumptions are independent of any specific forecast for site utilization by the Seventh-day Adventists, they do provide a reasonable range of traffic volume increases for use in evaluating the magnitude of traffic impacts.

Projections. Table 7 presents the estimate of trip generation associated with master Plan implementation under these assumptions. As shown, traffic on Forest Drive could increase by about 20 ADT during each period, with annual average daily traffic increasing by 23 AADT. During the peak hour on Sunday another 4 trips could be generated if the Master Plan is implemented.

**TABLE 7
FOREST DRIVE TRAFFIC VOLUME SUMMARY**

Time Period	Trip Generation		
	Existing	% Increase	New Trips
Peak Summer Day	116 ADT	20%	24
Summer Average Day	94 ADT	20%	19
Off-Season Average	30 ADT	67%	24
Estimated Annual Average Daily Traffic	45 AADT	105%	23
Summer Peak Hour	20 VPH	20%	4

Project Traffic Impacts

Mariposa County Standards. "Existing Plus Project" traffic volumes were tabulated assuming that site traffic uses Forest Drive west of the camp, as indicated in Table 8. As noted, the resulting traffic volumes do not approach the 300 ADT threshold employed by Mariposa County to differentiate between Service Level 5 and Service Level 6. Thus, the addition of project traffic does not have a significant impact with regard to Mariposa County standards.

TABLE 8
EXISTING PLUS PROJECT FOREST DRIVE TRAFFIC VOLUME SUMMARY

Condition	Location								
	1			2			3		
	West of Koon Hollar Road to Dumping Station (Vehicles per day)			East of Koon Hollar Road to Camp Wawona (Vehicles per day)			East of Camp Wawona (Vehicles per day)		
	Existing	Project Only	Existing Plus Project	Existing	Project Only	Existing Plus Project	Existing	Project Only	Existing Plus Project
Summer Peak Day	468	24	492	360	24	384	244	2	246
Summer Average	346	19	365	225	19	244	131	2	133
Annual Average Daily Traffic	160	23	183	105	23	128	60	2	62
Significant With Regard to Mariposa County Service Levels?			no			no			no

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**TABLE 9
EXISTING SUMMER SUNDAY INTERSECTION LEVELS OF SERVICE**

Intersection	Control	12:00 – 2:00 PM Peak Hour			
		Existing		Existing Plus Project	
		Average Delay (seconds)	LOS	Average Delay (seconds)	LOS
Wawona Road / Forest Drive (Overall)	EB/ WB Stop	(12.3 sec)	(B)	(12.4 sec)	(B)
Norhtbound left turn		7.7 sec		7.7 sec	
Southbound left turn		7.9 sec		7.9 sec	
Eastbound Forest Dr Approach		10.4 sec		10.5 sec	
Westbound Forest Drive Approach		14.2 sec		14.3 sec	

Impacts to Non - Automotive Circulation

The implementation of the Camp Wawona Redevelopment will incrementally increase demand for the area's non-automotive transportation facilities.

Pedestrian / Bicycle Activity. If the project is completed, some pedestrian and bicycle activity would continue to occur between the site and other Wawona areas. However, it is not expected that the number of camp visitors hiking or cycling in this area would be appreciably greater than already occurring at the camp on a peak summer day. Thus, increased pedestrian activity is not considered a significant impact.

Implementation of the proposed project would incrementally increase the volume of traffic in the area of the two existing pedestrian crossings on Forest Drive. This additional traffic may incrementally increase conflicts between pedestrians and automobile traffic. While a significant increase in accidents is not expected, it maybe desirable to modify the two existing crossings to further attract the attention of approaching motorists. While "urban" measures such as flashing beacons and/or in-pavement lighting might be considered in other locations, we would suggest a pavement treatment in the crosswalk area that would have a texture and color that differs from the asphalt pavement but is consistent with the rural character of the Wawona area.

Transit Services. Implementing the project may occasionally create demand for the transit services in the South Yosemite area. However, it is unlikely that development of this project would by itself create the need to expand existing services or modify existing routes.

Implementing the proposed project may result in more frequent use of charter busses to access the site. While the number of additional busses is unlikely to be significant from the standpoint of road capacity and Level of Service, additional bus traffic may inconvenience other motorists using Wawona Road.

Safety. The relative impact of project traffic on Forest Drive has also been assessed from the standpoint of safety. Two issues have been considered. First, increased traffic incrementally results in additional accidents at locations where safety issues already occur, and additional conflicts might be created at locations where current design standards cannot be met. Secondly, the extent to which increased use of charter busses at Camp Wawona may also increase conflicts has been determined.

The extent to which an incremental increase in potential safety conflicts represents a significant impact should be measured relative to recent accident experience along Forest Drive. Anecdotal information from County and National Park Service representatives suggests that while occasional "fender benders" have occurred, there have not been any accidents resulting in major injuries or loss of life. Thus, while it is possible that the incremental traffic increase resulting from implementation of the proposed project may concurrently increase conflicts on Forest Drive, it is unlikely that the increase in accidents would be judged to be significant.

The expansion of camp utilization could result in additional busses on Forest Drive, and if this is the case, then the probability of automobiles and busses meeting at locations where shoulders or pullout areas are inadequate could increase. Under these conditions motorists may be required to back down Forest Drive to avoid a bus. While this could be considered a potentially significant impact, the problem may be mitigated through the use of a pilot car that would accompany and precede each bus on Forest Drive. The car would be in contact with the bus by radio, would inform the bus driver of the status of opposing traffic and would inform approaching motorists of a following bus and direct them to a safe location to wait until the bus passes.

If the conflict was judged to be more significant due to an increased number of busses or a cumulative background traffic increase, then alternative mitigation measures could involve construction of expanded pullouts in proximity to locations where sight distance is limited or where the distance between existing pullouts is excessive. However, creation of expanded pullouts could require elimination of large trees, excavation of side slopes, or realignment of the road itself.

CUMULATIVE CONDITIONS

The relative impacts of implementing the Camp Wawona Redevelopment and Proposed Land Exchange Project have also been assessed within the context of future traffic conditions occurring under the Mariposa County General Plan and the Yosemite Valley Plan.

Background - Development

Two planning studies have addressed possible development in the Wawona area. The *Yosemite Valley Plan – Supplemental Environmental Impact Statement (11/00)* is a comprehensive document that presents and analyzes alternatives for managing resources in Yosemite Valley. Two of the alternatives would relocate 174 apartment, studio or dormitory bed spaces from Yosemite Valley to Wawona, along with development of 24 new bed spaces. However, two other alternatives include no additional housing units in the Wawona area.

The *Yosemite National Park – Parkwide Campground Planning Study (10/02)* evaluated several sites for expanded or new campgrounds, including the Wawona Section 35 site. However, the studies findings did not support development of any new campgrounds in this area.

Based on this data it is possible that the volume of traffic generated by land uses in the Wawona area could increase in the future, primarily as a result of development of new or relocated residences. However, it is difficult to use this data to suggest exactly how conditions on Forest Drive might be affected since the location of actual development within the Wawona area could be on either side of the South Fork Merced River.

Review of the draft Mariposa County General Plan Update Circulation Element notes that development in excess of 35 residential dwelling units is the trigger for development of a Service Level 5 road (i.e., 18 feet of pavement for > 300 ADT). Thus, it is possible that portions of Forest Drive might carry traffic volumes in excess of this standard that would necessitate improvements.

Background – Traffic Volume History

The extent to which the volume of traffic on study area roads may increase in the future regardless of local development has been assessed based on review of Caltrans' historic traffic volume records for SR 41 at the southern entrance to Yosemite National Park. Caltrans conducts traffic counts on most state highways on three year intervals, with intermediate data estimated from spot counts and/or interpolation. Data for the last thirteen years is presented in Table 10. As shown, this data has suggested that on an Average Annual basis the volume of traffic entering the park has consistently been in the range of 2,000 to 3,000 vehicles per day since 1991. The most recent data, collected in 2002, was in the low end of that range. However, the volume of traffic occurring during the highest volume month has varied within a range of about 4,000 to 6,000 vehicles per day. The most recent data collected in 2002 has been in the high end of that range.

Based on this data it is possible to reach two conclusions. First, on an Average Annual basis the volume of traffic on Wawona Road is not likely to be significantly greater than that occurring today since the historic trend does not suggest regularly increasing traffic volumes. On a peak month basis, the volume of traffic has been increasing, especially in the period from 1998 to 2002. However, recent short-term volume changes may be a poor indication of future traffic volume growth on Wawona Road since the overall level of National Park amenities is unlikely to increase substantially in the future and measures to promote use of alternative transportation modes are likely to be successful. Thus, it is unlikely that an appreciable cumulative impact will occur at the Wawona Road / Forest Drive intersection.

TABLE 10
HISTORIC TRAFFIC VOLUMES ON SR 41
AT YOSEMITE NATIONAL PARK ENTRANCE

Year	Average Annual Daily Traffic	Peak Month Daily Traffic
1989	1,450	1,750
90	1,450	1,750
91	2,200	2,700
92	2,400	3,750
93	2,600	4,050
94	2,950	5,600
95	2,550	3,900
96	2,550	4,400
97	2,700	4,650
98	2,350	4,250
99	2,450	4,450
00	2,450	4,450
01	2,050	5,300
02	2,250	5,800

Source: Caltrans *Traffic Volumes on California State Highways, 1989 – 2002.*

TECHNICAL APPENDIX

KDA

1: 0	1: 48	1: 18
2: 0	2: 45	2: 7
3: 2	3: 50	3: 12
4: 1	4: 34	4: 8
5: 1	5: 50	5: 7
6: 0	6: 33	6: 6
7: 0	7: 50	7: 13
8: 0	8: 38	8: 6

Right	Thru	Left
PT 3	PT 177	PT 45

1: 0				1: 13
2: 0				2: 11
3: 0	Left	North-South street:	Right	3: 17
4: 0	PT 0	Bridge	PT 52	4: 11
5: 0		East-West street:		5: 13
6: 0		Forest Drive		6: 5
7: 0				7: 9
8: 0				8: 18
		Initial time: 12:00 PM		
		Date: July 27 2003 Sunday		
		8 intervals counted		1: 5
		4 intervals = 1 hour		2: 4
1: 0			Thru	3: 2
2: 1		Observers: Mikey	PT 13	4: 2
3: 0	Thru			5: 0
4: 0	PT 1			6: 0
5: 1				7: 0
6: 0				8: 0
7: 0				
8: 1				1: 21
				2: 17
1: 1			Left	3: 12
2: 0			PT 52	4: 2
3: 0	Right			5: 15
4: 2	PT 3			6: 10
5: 1				7: 13
6: 1				8: 16
7: 0				
8: 2				

	TIME	INT'VL TOTALS	HOURLY TOTALS
1.	12:00	171	604*PK HR
2.	12:15	148	581
3.	12:30	170	523
4.	12:45	115	476
5.	1:00	148	500
6.	1:15	90	0
7.	1:30	123	0
8.	1:45	139	0

Peak hour factor = 0.8830

PT 3	PT 209	PT 46
Left	Thru	Right
1: 1	1: 52	1: 12
2: 0	2: 50	2: 13
3: 1	3: 61	3: 13
4: 1	4: 46	4: 8
5: 1	5: 47	5: 12
6: 0	6: 27	6: 8
7: 0	7: 32	7: 6
8: 1		

EXISTING PLUS PROJECT

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 xxxx road / Forest Drive
*****Average Delay (sec/veh): 14.2 ~~12.5~~ Worst Case Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1! 0 0	0	0	1! 0 0	0	0	0 1 0	0	0	1! 0 0

Volume Module:

Base Vol:	3	209	46	45	177	3	0	1	3	52	13	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	209	46	45	177	3	0	1	3	52	13	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	3	232	51	50	197	3	0	1	3	58	14	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	232	51	50	197	3	0	1	3	58	14	58

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	6.5	6.2	7.2	6.6	6.3
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	200	xxxx	xxxxx	283	xxxx	xxxxx	xxxx	588	198	565	564	258
Potent Cap.:	1354	xxxx	xxxxx	1262	xxxx	xxxxx	xxxx	424	848	431	430	774
Move Cap.:	1354	xxxx	xxxxx	1262	xxxx	xxxxx	xxxx	406	848	414	412	774

Level Of Service Module:

Stopped Del:	7.7	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*	
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	666	xxxx	522	xxxxx	
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	10.4	xxxxx	14.2	xxxxx	
Shared LOS:	*	*	*	*	*	*	*	*	B	*	B	*	
ApproachDel:	xxxxxx			xxxxxx				10.4			14.2		
ApproachLOS:	*			*				B			B		

$$NDE = 3(7.7) + 50(7.9) + (1+3)(10.4) + (58+14+58) \times 14.2$$

$$3 \times 50 + 1 + 3 + 58 + 14 + 58 = 12.5 \text{ sec}$$

$$\frac{2305.7}{187} =$$

EXISTING PLUS PROJECT

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 xxxx road / Forest Drive
*****Average Delay (sec/veh): 14.3 Worst Case Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1! 0 0	0	0	1! 0 0	0	0	0 1 0	0	0	1! 0 0

Volume Module:

Base Vol:	3	209	46	45	177	3	0	1	3	52	13	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	209	46	45	177	3	0	1	3	52	13	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	1	1	0	0	0	0	0	1	0	1
Initial Fut:	3	209	47	46	177	3	0	1	3	53	13	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	3	232	52	51	197	3	0	1	3	59	14	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	232	52	51	197	3	0	1	3	59	14	59

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	6.5	6.2	7.2	6.6	6.3
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	200	xxxx	xxxxx	284	xxxx	xxxxx	xxxxx	592	198	568	567	258
Potent Cap.:	1354	xxxx	xxxxx	1261	xxxx	xxxxx	xxxxx	422	848	429	429	773
Move Cap.:	1354	xxxx	xxxxx	1261	xxxx	xxxxx	xxxxx	403	848	412	410	773

Level Of Service Module:

Stopped Del:	7.7	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	665	xxxx	520	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	10.5	xxxxx	14.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	B	*	B	*
ApproachDel:	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	10.5	14.3				
ApproachLOS:	*	*	*	*	*	*	B	B				

$$(3)(7.7) + 51(7.9) + (1+3)(10.5) + (59+14+59)(14.3) / 3+51+1+3+59+14+59$$

$$= \frac{2355.4}{190} = 12.4$$

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